The Builder.

NUMBER 152. VOLUME IV. SATURDAY, JAN. 3.

THE OPENING OF A NEW VOLUME.

WHEN our brief address at the close of last year (a short week ago,—so quickly does the *present* become the *past*) we claimed our readers' belief for any promises we might make for the future, on the ground that we had redeemed all former pledges to their satisfaction,—an assumption somewhat egotistical it must be confessed, but which we have been led implicitly to believe and confidently to assert, chiefly by their own kind and increasing encouragement. We pointed out what had been done, and alluded to some few particulars which, of themselves, rendered the volume indispensably necessary as well to all owners and occupiers of houses, as to the architect, surveyor, builder, and decorative artist. To this therefore, we shall not now refer; our present business is with the future, and to offer an assurance to our readers, that no efforts shall be spared to increase the usefulness and value of the journal, and to render it equal to the great objects it has in view, and worthy of the confidence reposed in it by the public.

We begin the year under very promising circumstances,—our arrangements are more complete than they have ever yet been, and our contributors more numerous and able. We circulate among classes who, for some time after the establishment of THE BUILDER were led by want of full appreciation of the scope of the title, to look no further; and our field of action is extended and extending.

Our means of obtaining information are considerable, and our readers, if they could be induced to take the trouble, might make them perfect and universal. If each of our well wishers throughout the kingdom, would inform us briefly of simple facts, and occurrences connected with the subjects of which we treat,—a novelty in construction; a failure and why; injury to ancient structures, the erection of new; proposed competitions; trials at law relating to buildings; intended improvements, and similar topics,—the result would be a body of information of the most valuable and interesting character. This assistance therefore, we solicit from them: and we further, ask architects to give us early information of the buildings they may have in hand, and publishers to send us notice of the works they issue. Though we cannot promise praise, we do promise to give both buildings and books, unprejudiced and unbiassed consideration, and to commend where commendation is in any degree deserved.

We deal in honey rather than vinegar: we are not disposed to wound feelings merely to appear smart, and to depress struggling merit for the sake of shewing our own taste, or superior knowledge of the subject treated. When, however, the interests of the public demand plain speaking, when corruption is apparent, dishonourable conduct exhibited, when public officers are inefficient or unjust, or a charlatan deserves exposure, we will not be deterred from what we may believe to be our duty, by consideration for individuals or by any personal fears. And though we may not use our arms every week, we promise those who force us to resort to them, a none the less determined and vigourous opponent.

One great object that we have in view is, to render the art and science of architecture familiar to the general reader; to diffuse a knowledge of the subject, and to raise the standard of taste. With a view to this, we shall strive to interest and please as well as instruct. Painting and sculpture, as important accessaries of architecture, will have our care; and archæology, and general science to a certain extent, will fall within our province. To the proposed revision of the Metropolitan Buildings Act, we shall of course give attention, and shall continue to place before our readers all the more important awards of the official referees, which shew its operation, and may serve as precedents.

Among the subjects to which we shall continue to refer, with the hope of effecting improvements are, defective modes of construction; ventilation; drainage, and the administration of competitions; and we shall ever urge the improvement of our operatives, the removal of the window-tax (a tax on cleanliness, health, and architectural propriety), the admission of the people to public monuments, and the establishment and maintenance of a NATIONAL MUSEUM OF ARCHITECTURE.

In consequence of the length of some important papers in our present number, it does not contain the same amount of "news" as usual. Information from the provinces and abroad, railway jottings, and notes on passing events are unavoidably postponed. We mention this that our readers may not suppose less attention will be paid in this respect than heretofore. The reverse will be the case.

BURSTING OF A TANK AT LIVERPOOL.—The late fatal accident at Liverpool calls for a searching examination, with the view of lessening the probability of its recurrence elsewhere. We shall next week discuss the subject, which is of great importance, at some length, and point out the circumstances to be attended to in providing receptacles for fluids.

THE OLD 'CHANGES OF LONDON;

AND REMARKS ON THE RELICS FOUND ON THEIR SITES.

BY W. TITE, ESQ., F.R.S.

AT the last meeting of the Institute of Architects, Mr. W. Tite, V.P., read a paper illustrative of several of the proceedings connected with the two old Exchanges, as derived from the records of the Corporation of London, and of the Mercers' Company; with notices of the antiquities discovered on the site of the former edifices. The title of this discourse naturally indicated its division into three general sections:—some illustrations concerning the first Exchange of Sir Thomas Gresham; some particulars relating to that built after the great fire, and recently destroyed; and some account of the ancient remains found on the site of the old buildings, in making the excavations for the present structure. Mr. Tite exhibited several drawings and plans of the old Exchanges; as well as a large and interesting selection of those antiquities, which were displayed in several glass-cases on the table.

The materials of the first two portions of the discourse having been derived chiefly, from that exceedingly curious and valuable series of "Extracts from the Records of the City of London, and the Books of the Joint-Committee upon Gresham Affairs," printed by the Corporation, Mr. Tite commenced by observing, that British records were the only sure foundations for British history. He then adverted to the high reputation of the national records of this country, as excelling "in age, beauty, correctness, and authority, whatever the choicest archives abroad can produce of the like sort," in the words of the eulogy of Sir Joseph Ayloffe; and then passed on to the peculiar characteristics of the "Records of the Chamber of London," noticing the "Liber Albus," the "Liber Horne," and their printed representative, "Arnold's Chronicle;" ending with a description and recital of the first charter granted to the City of London by William I.

The historical notices concerning the erection of the Burse of Sir Thomas Gresham, as well as of the second Exchange, independently of the official entries now brought forward, are exceedingly indefinite and imperfect; and those extracts formed, perhaps, the most valuable part of the whole discourse. In our account of these portions, therefore, we shall be the most minute; but it is quite impossible to present even a summary of them all in the present limits: more especially, as Mr. Tite stated, that he had marked for reading many more extracts of great curiosity, which the time compelled him to omit.

It is commonly known as the origin of the first Exchange, that "Forasmuch as the meetings of the merchants of London were unpleasant and troublesome, by reason of their walking and talking in a narrow street," in all weathers, Sir Thomas Gresham made to the Corporation his famous offer of erecting a Burse at his own especial charge. Hence Mr. Tite's first extract from the proceedings of the Court of Aldermen, Jan. 4th, 1564 (1565), stated, that "After the gentle and very fryndely, offer made unto the Courte here this daye, for the erectynge and buyldynge at his onely costs and charges of a comely burse for merchaunttes to assemble uppon, so that the Cytye, at their charges, wyll provyde and appoynt a mete and apte place for the same, beinge well and rypely

conveyed and understonden by the Courte, yt was fynally grauntyd and agreed by the same Courte, that the Cyte at their charges shall provide an apte and mete place for the saide purpose: and that he shall receyve knowledge of the same here uppon Mondaye next comynge." A committee was then nominated to view and consider of several proposed sites, with the expense of each; "and to make reporte thereof to my L. Mayre, and his brethren the Aldermen, *upon Sondaye next, at viij of the clok, in the Chappell in Poule's Churche wherein they doe usually assemble before the sermontyme.*" On the 8th of the same month, it was "fully assentyd, consentyd, and agreed, by the hole Courte here, that the burse shalle be buyldyd and made bytwene Lumbard-street and Cornhill."

Some notion of the value of the property required, was shewn by the Court authorizing "xxiij yere's purchase" to be given for the houses bought of the Dean and Chapter of Canterbury; and several succeeding extracts exhibited the manner in which the "benevolence and aid of the xij hedd companyes," and "the Governors of the Merchaunt Aventurers, and of the staple beyond the sea," were solicited "towardes the fynisshinge of the Burse." Mr. Tite also read part of a very curious official letter to the former association, requiring their benevolence of 400 marks (266*l.* 13s. 4d.) should "be readye to be paied to us within these two monthes." The mayor's precept was also issued for payment of the different sums allotted to the twelve companies; all which contributions amounted to 1,586*l.* 9s. 7d.: the expenses of the property bought for the site of the Exchange being 2,208*l.* 6s. 8d. for the freehold; 1,222*l.* 14s. for the leasehold; and 101*l.* 16s. 6d. petty charges; making a total of 3,532*l.* 17s. 2d. to be provided by the City. The materials of the buildings taken down sold for 478*l.* 3s. 4d.

Mr. Tite then noticed, that on Feb. 9th, 1565 (1566), Sir Thomas Gresham "did most franckly and lovingly graunte and promysse, that within one moneth next after the buildinge and fully fynisshinge of the Burse and Bursepawnes, and other buildings intended, he would assure to the Citte for the Citie's use, the moytie of all the said Burse, etc. and for the sewer performance of the premysses, the said Sir Thomas, in the presence of the parsons aforenamed, did give his hande to Sir William Garrard, and dranke a carouse to Thomas Rowe." Notwithstanding all this public spirit, however, nearly twelvemonths before the completion of the Burse, a royal proclamation was published against "some very lewde and evell-disposed personne or persones," who had "cutt, mangled, and defaced, the creasts conyzans, and mantell, of the armes of Sir Thomas Gresham, sett upon the west dore of the stares ascending into the pawne, on the south side of the said building, to the greate discomforte and discourage of the said Sir Thomas Gresham." It will be remembered, that the Royal Exchange was at length opened and named by Queen Elizabeth, on Jan. 23rd, 1571.

Sir Thomas Gresham died suddenly, at his house, in Bishopsgate-street, between six and seven o'clock in the evening of Nov. 21, 1579, on his return from the Exchange: and another extract, cited by Mr. Tite, dated 1610, noticed his "being cut off by untymely death, having left a parte of his royall monument unperformed; that is, xxx Pictures of Kings and Queenes of this land; and to that purpose left 30 roomes (niches) to place them in." The same document contained a proposal, that before any citizen should be finally elected alderman, he should be "enjoyned to pay the charge of making and fynishing one of the forsaid Kings or Queenes theire pictures, to be erected in the places aforesaid in the Exchange, not exceeding 100 nobles (66*l.* 6s. 8d.); the pictures to be graven on wood, covered with lead, and then gilded and paynted in oyle-cullors." This scheme was partly adopted, by the Court of Common Council making the erection of one such statue a part of the fine for being freed from the office of Sheriff. So long as thirty years before the destruction of the Exchange by the great fire, it appears to have been considered as being placed in considerable danger; an order of the Court of Aldermen declaring that the Court being "informed that certaine feather-makers and others that keepe shopp in the Upper-Pawne of the Royall Exchange, London, doe commonly use and keepe pannes of fyer in their said shopps, upon pretence of use thereof for their trades, which are conceived to be verie daingerous for firing the said shopps; it is thought fitt, and soe ordered by this Court, that from henceforth noe manner of fyer, either in panns, or any other thing whatsoever, shall be had or used in any of the shopps aforesaid."* The destruction of the first Royal Exchange in the Fire of London, on Monday, Sept. 4, 1666, closed the first division of Mr. Tite's discourse.

So early as Oct. 23, a survey of the ruins was presented; and on Nov. 16, Mr. (Dr. Robert) Hooke, made a very curious report on them, which Mr. Tite read at length. In this it is stated, that "by makeing a particular estimate of the several thinges to bee done in order to the rebuilding of the Exchange anew, in the same forme as itt was of heretofore (abateing only the statues of the Kinges in the nicches, and the arched roofe of stone over the walke, which I thinke would bee better if made of plastered seeling, whereby all the cross-irons might bee spared); to make the pillars, arches, architrave, freez, and cornice, and the borders of the nicches, and the fower windowes, of Portland-stone, and to pave the walkes with squared Purbeck-stone; that the whole charge will amount to betweene £4000 & £5000, supposing all the materialls to bee new bought; but the paveing for the most parte seemes good. The pedestals of all the pillars are very little damnifyed by the fyre."

Down to the time of the death of Sir Thomas Gresham, the affairs of the Royal Exchange had been conducted by himself and the Corporation of London; but they then passed under the management of the Gresham Committee, as the trustees appointed under his will, in connection with certain members nominated by the Corporation. Thus originated the Grand, or Joint-Committee, under whose direction was executed the rebuilding of the Royal Exchange, after the Great Fire. Mr. Tite next proceeded to shew that the real architect of that edifice was Edward Jerman; but as we have already printed a very curious paper on that subject, we refer our readers to it, for much of the information contained in this part of the discourse. Two large and beautiful drawings of Jerman's designs for the building, executed in Indian ink upon vellum, illustrated this division of the subject. These drawings belong to R. W. Jupp, Esq., of Carpenters' Hall, and are considered to be cotemporary with Jerman's building.

Mr. Tite noticed it was a remarkable coincidence, that immediately after the fire, the Court of Aldermen "ordered that the Exchange shall bee in the gardens or walkes of Gresham House;" being the site of the very spot on which the temporary Exchange was erected in 1838—the great court-yard of the Excise Office. Some curious particulars of payments, and of the providing and cost of materials for the second Exchange, were here introduced, of which we may notice a few. Thus, the clerk of the works was to receive 12s. per week; the working of "all mouldings whatsoever," was to be paid at 5s. 9d. per foot; all the smaller pillars, fluted, were to be 8*l.* each, and the four greater 12*l.*; and on Dec. 9th, 1667, "the Committee, considering that Mr. Jerman, who was chosen surveyor for rebuilding the Exchange, in April last, hath not yet received any gratification for his paines about drawing drafts, and directing the building;—ordered that 50*l.* shall be paid him upon account, until further consideration of his meritts." Another payment, remarkably characteristic of the manners of the period, was also made at this time. It was, by the Committee, to Sir John Denham, the poet, "His Majestie's Surveyor-General of his Workes, for his trouble from time to time, in coming down to view the Exchainge, and streetes adjoining; as also in furthering theire addresses to His Majesty, and giving them full warrants for Portland-stone;" and the Committee, therefore, ordered provision to be made "of six or eight dishes of meate att the Sun Tavern, on Wednesday next, to intertayne him withal at his comeing downe, and to present him with thirty guinney pieces of gold, as a toaken of theire gratitude."

On Oct. 23rd, in the same year, King Charles II. fixed the first pillar for the re-edifying of the Exchange, on the west side of the north entrance. "He was entertained," says the official entry of the event, "by the City and Company, with a chine of beef, grand dish of fowl, gammons of bacon, dried tongues, anchoves, caviare, etc., and plenty of several sorts of wine. He gave 20*l* in gold to the workmen. The interteynment was in a shedd built and adorned on purpose, upon the Scotch walke." On the 31st, the Duke of Yorke founded the corresponding pier; and on Nov. 18th, Prince Rupert fixed the pillar on the east side of the south entrance; both being similarly entertained.

The King interested himself so far in the architectural appearance of the edifice, as to desire, that portions might be built on all sides of the Exchange; and hence, Mr. Tite took occasion to notice the difficulties which arose between the Committee and the possessors of the property required; and in especial, with Van Swieten, or Sweetings, as he is usually called. About seven hundred superficial feet were wanted of his ground at the east end of the Exchange, and about one thousand four hundred feet more for a street or passage; for which he declared that he expected to be paid according to the *cheapest* rate that any other ground should be bought at. When, however, he appeared before the sub-committee, he demanded 1,000*l.* for six hundred and twenty-seven feet, which was thought so unreasonable that they laid it aside.

The architect, Jerman, did not live to complete the Exchange; and, on Nov. 28th, 1668, the Committee directed Mr. Cartwright, the mason, to proceed vigorously with the work, he having declared himself master of the whole designs intended for the building. In April, 1669, Dr. Wren (Sir Christopher) first appears connected with this Exchange; he then being solicited by the Committee to advise with them concerning the difficulty and charge of erecting porticos on the east and west sides, and to represent the same to his Majesty. The King subsequently left this matter to their discretion, to act as might be the most conducive to their own interest.

A remarkable decoration was originally proposed for this building, which is now known only by the series of official extracts brought forward by Mr. Tite. The celebrated Sir Robert Viner appeared at a committee, on March 22nd, 1668 (1669), and proffered to give *his Majesty's statue on horseback, cut in white marble, to stand upon the Royal Exchange.* They expressed their high sense of his noble proffer, but after sending a deputation "to view the bignesse of the said statue, and to consider how and where it may bee placed," it was declined, because it would hinder the prospect through both doors; it would take up too much of that room, which is already too little to contain the concourse of merchants. Sir Robert Viner afterwards gave this statue to be erected over the conduit at Stock's-market.

The building now approached completion, and Mr. Tite noticed a variety of curious circumstances connected therewith. Thus we find that Caius Gabriel Cibber was appointed to be the carver; that the clock was to be set up by Edward Stanton, under the direction of Dr. Hook, having chimes with four bells, playing six tunes, the payment for which was to be 120*l.*, with a conditional gratuity of 10*l.*; that William Wightman was to furnish a set of sound and tuneable bells, at 6*l.* 5s. per cwt.; that four balconies were to be made from the inner-pawn into the quadrangle, at a charge of *not more than* 300*l.*; and that the signs to the

* Mr. Tite referred to the will of Sir Thomas Gresham, in this part of the paper, and pointed out its objects. Sir Thomas Gresham left the Exchange during the life of his widow to her use; and at her death, he left his mansion in Threadneedle-street, now occupied by the Excise Office, for a college, to be called Gresham College. This was intended to be a London University in its objects and its usefulness; and it so continued and flourished exceedingly, the funds for its support being provided by the rents of the shops and pawnes of the Exchange. By the Great Fire this source of income was entirely cut off; and not only so, but the two Corporations of the City of London, and the Mercers' Company, incurred a debt of nearly 60,000*l.* in rebuilding the Exchange. They, notwithstanding, out of their own resources, continued the College, until the year 1745, when the debt amounted to no less a sum than 111,000*l.* In 1768, the College was put an end to, by an Act of Parliament, and the site let to the Commissioners of Excise. The Gresham Professors were always continued, and gave their lectures in a room in the Exchange, up to the recent fire. Since the fire of 1837, the Gresham Committee have, from their own funds, rebuilt Gresham College, in Gresham-street, at an expense of upwards of 15,000*l.*; and the debt incurred by the two Corporations, in maintaining the Exchange, and rebuilding it twice, in maintaining the Gresham Professors, and some alms-houses, founded also by Sir Thomas Gresham, amounts now to considerably more than 200,000*l.* And thus these two great Corporations have most nobly and disinterestedly carried out the objects of Sir Thomas Gresham; but, at the same time, at this great pecuniary sacrifice.

shops in the pawns should not be hung forth, but set over the frieze of each shop.

Mr. Tite then entered on the last division of his discourse, that there was a period of much more remote antiquity, by hundreds upon hundreds of years, than the time of the oldest Exchange; and that it was of the relics of that period, then exhibited to the meeting, of which he was about to speak. In doing this, he was desirous of shewing his junior professional hearers "how to observe," when such antiquities came before them in the discharge of their duties. He first gave an account of the place and manner of their discovery, which will be found in his own report addressed to the joint committee, and which we here introduce:—

"*To the Joint Grand Committee for Gresham Affairs.*

"Gentlemen,—In continuation of my reports on the works at the New Royal Exchange, I beg to make the following statement:—

In proceeding with the excavation of the merchant's area, I found the soil much more disturbed than had previously been the case; and that in this small square space there were no fewer than thirty-two cesspools, some of them of considerable size. These have all been carefully cleared out down to the solid ground, and filled up with concrete. In consequence of this circumstance, however, and the unsatisfactory state of the ground generally, I have considered it prudent, to have this area excavated to the same level as the other parts of the foundation, and to put in the stratum of concrete of the same uniform thickness. In proceeding westward with the excavation a circumstance of considerable interest in an antiquarian point of view has been discovered; but unfortunately it has led to some delay and expense, and therefore I must beg to explain the nature of this interruption.

It will be in the recollection of the committee that the result of the trials suggested by me last year shewed, that a firm bed of gravel might uniformly be expected at a depth of 16 ft. 6 in. below the present surface of the ground, all above that level being vegetable earth, accumulations and debris of various kinds. This was ascertained by the sinking of six pits in various parts of the site of the Old Exchange. Except in the cesspools referred to, this conclusion has been found correct in all excavations up to the beginning of April. At that time the workmen began to destroy the foundations of the west wall of the merchants' area of the Old Exchange, when it was found that this wall was placed partly on some remains of Roman building, evidently undisturbed, and these remains apparently rested on the native gravel. The Roman work was a wall and a sort of pedestal, which crossed the ground obliquely from the south-west to the north-east, the pedestal being stuccoed and moulded, and having the mouldings painted with an ornament. Where the Roman work ceased to afford a foundation for the walls of the Exchange, oak piles had been driven in and sleepers laid on the heads of those piles. The substratum, however, in this latter case, was a black mud; and upon proceeding further, it was found that the Roman work itself, as well as the wall, had been founded on a very large pit or pond, irregular in its shape, but about 50 ft. in length from north to south, 34 ft. from east to west, and 13 ft. in depth below the bottom of the concrete, being in fact sunk through the gravel right down to the clay. This pit was filled with hardened mud, in which were immense quantities of bones of sheep, much broken, with a few of the bones and horns of stags, very numerous fragments of the red Roman pottery, commonly called Samian ware, pieces of glass and glass vessels, broken lamps, and all the usual rubbish that might accumulate in a pond left to fill up in a course of years. Amidst this mass about fifteen copper coins have also been found; two of them of the emperor Vespasian, the remainder of the emperor Domitian, besides several copper, iron, and wooden styles, used for writing on waxen tablets, together with one or two of the tablets themselves, one of which is perfect. The most uncommon and perhaps most interesting remain is a strigil used in the Roman baths. This is of mixed metal, and in good preservation, and is certainly very curious. All antiquities found are reserved, under the terms of the contract, for the committee, whose property they are.

It is extremely difficult to explain this state of things; but it appears to me probable, that this pit had been sunk during the earliest times of the Roman occupation of London, for the mere purpose of obtaining the gravel, required perhaps for making a causeway or road across the banks of the adjoining marshy stream of the Wall-Brook. When the excavation had served this purpose, it remained for years (perhaps centuries), forming a dirty pond to receive the refuse and rubbish of all the neighbourhood, and in this way it must have been gradually filled up; at the time of building the Roman wall the accumulation was firm enough again to receive a bed of gravel, slightly concreted, laid on the top of the mud, so as to be covered up and become apparently solid ground. The builders of the Old Exchange, however, found out its deficiency, and supported their work on piles, which had evidently yielded.

This hole is cleared out to the extent of four-fifths of its area, and the concrete is being fast extended towards this spot.

In this state of things it would be obviously most injudicious to carry up the foundations, on the part already concreted, to any great extent, I have therefore directed the bricklayers to proceed with the footing-courses only of that part of the foundation; and when the concreting is completed, it will be perfectly easy to press forward the brickwork so as to be quite in time for the second contract.—I have the honour to be, gentlemen, your obedient servant, (Signed) William Tite.

17, St. Helen's-place, 3rd May, 1841."

Of the antiquities thus referred to, Mr. Tite noticed first the *Samian ware*, of which several fine fragments, embossed with elegant figures, and some marked with the names of the potters, were before him. He illustrated the general employment and estimation of the manufacture at different periods, from a variety of classical authors; and noticed the interview between Homer and the potters of Samos, referring to the very rare black cups which they made. At this time, also, was exhibited a large and fine fragment of an amphora, brought from a depth of 17 feet below the surface; and several curious terra-cotta lamps.

Mr. Tite then referred to the several specimens of pine wood table-books, and styles of different metals, which were on the table, and shewed the manner of writing with them. These he also illustrated from a variety of ancient authors, shewing their use and estimation: as, how Quintilian commends waxen tablets to the student, for expedition; how Homer shews, from his own example, that they might be employed for writing by the blind; how the "*vertere stylum*," the "filing" of a composition, and the "ploughing of the waxen field," passed into proverbial sayings; how such tablets were employed for letters; and he finished with the curious description of the knavery of the mendicant friar, with his

> "Pair of tables, all of ivory,
> And a pointely polished fetisly,"

from "the Sompnoure's Tale" of Chaucer.

A few illustrative remarks followed, concerning the remains of reticulated sandals, soldiers' shoes, and other articles of leather, contained in another case, as also of a Roman strigil, and several miscellaneous antiquities; but these were only slightly noticed, on account of the lateness of the hour. Mr. Tite concluded by observing that his design, in this part of his lecture, was to induce his young friends to regard such ancient remains with an intelligent mind and eye; not simply for the sake of their antiquity, but because some hidden beauty, some principle of early art, some excellent moral, or some noble sentiment, might be elicited by the examination.

A landslip on the Newcastle and Darlington line, has interrupted all communication for the present. It occurred about a mile-and-a-half to the northward of Aycliffe. The *Durham Chronicle*, says: "In traversing Mordon Carr, the line passes over a dead level, which, whenever there is much rain, covers the rails. To remedy this defect, the line through this marsh has been raised; and it is conjectured that the additional weight was the cause of this accident, which has left a chasm on the very line which the railway traversed."

REPORT FROM THE INSTITUTE OF THE FINE ARTS ON PUBLIC COMPETITIONS.

The following report of a committee, appointed to consider the subject of public competitions in matters of art, especially as regards the advertised proposal for a competition picture of the Baptism of Christ by immersion in the river Jordan, for a prize of 1,000*l.*, having been approved by the council, was read at a general meeting of that society, on the 27th ult., in the great room of the Society of Arts, Adelphi. Dr. Leonard Stewart in the chair.*

"Gentlemen, — Competitions in art are now so frequent and so fully responded to that, without sound principles in their management, they must necessarily be very injurious to the artists, however advantageous they may appear to the public; for instance, in the case before us, if 1,000*l.* has to be competed for, and fifty artists enter the lists and spend 1,800*l.* of money and an amount of time equal to twenty-nine years of human life, as this inquiry will demonstrate, they evidently lose 1,800*l.* and the whole of that time, unless there is compensation by reputation, by acquired knowledge which may be turned to account, or in the sale of the competition pictures. A wholesome condition of public taste, good sense in the arrangements, and strict justice in the awards at competitions, would, in some measure, afford this compensation, but the usual modes adopted in these trials of skill afford none; on the contrary, they are attended with many circumstances that embitter the feelings, aggravate the sufferings, and injure the reputation of enthusiastic competitors. Such a course must ultimately be injurious to the public as well as to the artist. The system has indeed much of the excitement and immoral tendencies of a lottery.

In order to arrive at a better principle, we have inquired into the results of various competitions in different ages, and in several countries; we have endeavoured to trace the amount of competency in the judges and of equity in the modes of arrangement, or of good faith in the superintending authorities. Among the ancient Greeks various plans were adopted, according to the more or less popular political institutions of the community. Where the arts flourished most, public opinion, in whatever form expressed, was the basis of public patronage. In some cases the community, considering the competing artists most interested in a fair decision, actually left that decision to them; in others the opinion of the people was paramount; but even then suggestions from the artists were attended to with deference and respect, and not disregarded or condemned as is too often done among us. When Phidias and Alcamenes competed for a statue to be placed on a column or other elevated situation, at first sight all opinions were in favour of Alcamenes, but Phidias demanded that both figures should be placed at the intended elevation, previous to the award being made. This was done, and such was the consideration of perspective effect by the one artist and its neglect by the other, that the people no sooner saw them at their required elevation, than they changed their opinion, and decided in favour of Phidias. In this instance it is clear that the judges, *i. e.* the public, were not fully competent to their task, but it is also obvious that such artists as Alcamenes would have been equally unfit or even worse; for, in all probability, relying on their practice and skill, they would not have taken the trouble to raise the competing statues to the proposed elevation, and in all likelihood they would have been more tenacious of a first opinion than the people were.

In the case of the citizens of Cos choosing a statue of Venus from two by Praxitelles, so far from delegating their judgment to artists, they selected, from a motive of delicacy, that which the technical connoisseurs denounced as inferior. Posterity has decreed that in this, good sense triumphed over conventional excellence.

Much has been said of a mode of deciding some competitions among artists in ancient Greece, in which the competitors were each

* We shall seek an early opportunity to draw attention to the constitution of the Institute of Fine Arts, its present position, and that which it may and ought to take. It will be the fault of its management alone, if it do not become one of the most useful and important associations in England. A comprehensive and liberal spirit must prevail.

allowed two votes, under the notion that in the ballot, each would give one vote in favour of his own performance, and the other to the best of his rivals; as though all the candidates, after indulging a selfish conceit, would, as soon as that first impulse was gratified, become perfectly candid; as though the act performed by one hand, and its motive, were unknown to the other! Unless they were strictly honourable and impartial, it is more likely that they would give both votes to their own work, or the second vote to the most unlikely rival; thus might the least talented stand at the head of the poll: we have been informed of occurrences which confirm this opinion. On one occasion, at one of our distinguished institutions, a candidate was elected to an important office, for which he was so totally unfit, that the self-degraded electors had to request their own nominee to resign; on another, an individual of considerable reputation, after proposing and making a warm eulogy of a friend's qualifications, was proved, by the unanimity of the votes in favour of himself, to have sacrificed that friend to his own conceit. If candidates are honourable and true, one vote is as good as two; and so it would be if they were all selfish and cunning.

Early in the fourteenth century, a very important competition took place at Florence, between Brunelleschi, Donatello, Ghiberti, and four other eminent sculptors; for under good and honourable regulations, the greatest were not loath to compete. Subjects, to be executed in bronze, for the ornament of the gates of the Baptistery of St. John, were confided to their emulation, each being provided, at the public expense, with every convenience of studio, furnace, and other accommodation, that could ensure success, and a sum for personal expenses. Having done so much for the comfort of the artists during the period of their exertions, a competent tribunal next received the consideration of the Florentines; thirty-four men of taste and talent, some artists, and some amateurs, were appointed judges to determine which was entitled to especial admiration, and public employment. Their votes were divided, and no decision obtained from them; but the magnanimous candour of Brunelleschi and Donatello, who had each the same number of votes as Ghiberti, at once settled it in his favour, and proved the tribunal incompetent: those generous rivals saw no room to doubt his superiority in that contest; and posterity has sanctioned their opinion. The incompetency of this tribunal was, however, but negatively bad; it allowed the scales of justice to remain in doubtful suspension, but it did not actually reverse its tendency, and cloud the prospects and fame of a deserving candidate. A similar diffidence, or modest ignorance, was remarkable when Leonardo da Vinci, and Michael Angelo Buonarotti, made their great trial of skill at the Council Chamber; the splendour of the one did not eclipse the majesty of the other, as the success of one man's talent invariably smothers the fame of every other in our modern competitions.

In France, during the period of religious animosity, from the reign of Francis the First to that of Louis the Fourteenth, public competitions were often productive of fine works, as the best portions of the palace of Fontainebleau, and the beautiful square of the Louvre attest. In those instances, native talent, both Catholic and Protestant, in worthy emulation, stands triumphant amidst the performances of foreign rivalry. The same system was resorted to for the east front of the Louvre, and the award of superior merit was in favour of Claude Perrault, the physician and mathematician, but a corrupt court, where the spirit of intellectual freedom had not survived that of anarchy and rebellion, could not rest satisfied with the result of competition and public opinion. Louis the Fourteenth endeavoured to set aside the design of Perrault, and invited Bernini, the fashionable Italian architect and sculptor of the day, to visit his court and design something worthy the magnificence and splendour of that pompous monarch. Princely honours attended on the foreign artist in his progress to the French capital, but Colbert found it advisable to lean towards the popular opinion: the king relented, Bernini retired with the same affected magnificence that accompanied his arrival, and the design of Perrault, the masterpiece of that era, before which even Whitehall sinks in comparison, was completed, at once a monument to French taste and a trophy to public opinion.

Under Napoleon, competition was far from pure. The jury of artists for the Decennal prizes adjudged the great prize for a subject of ancient history to Girodet, for a scene of the Deluge. The emperor was disappointed: he had expected that prize to be given to his first painter, David, for the intercession of the Sabine women between their enraged relatives and their Roman husbands. The judges could not indeed be induced to convict themselves of incompetency in that decision; but, to conciliate the sovereign, in the next trial, they conferred the prize for a modern subject on David's coronation, and not on the plague of Jaffa, by Gros, which they individually preferred. A sad example of artists, eminent for talent and character, rendered dishonest by the interference of a potentate.

At the present time in France, where artists constitute an influential portion of the intellectual aristocracy (the aristocracy of talent and professions); where authority and intrigue are variously apportioned, no one competition is of much importance, for the effect of a partial decision by the court party. is frequently neutralised by an equally unsound award in favour of the injured artist, by some municipality of opposition politics, to whose prejudices an appeal is made, and who have in their gift a provincial commission.

In our own country, competitions are very unsatisfactory, and frequently alike absurd and unjust: in that for the Nelson memorial, the vacillation of the committee in setting aside their first hasty award, and advertising a new contest and exhibition, with their final confirmation of that first very doubtful judgment, compromised the dignity of the committee as much as its taste, and unnecessarily increased by many thousands of pounds the expense (besides trouble) of the artists. That competition was fatal to the confidence of artists in a tribunal of amateurs of rank and fortune, but that of the Royal Exchange with a tribunal of artists was still worse: the jury of three eminent architects, refused any premium to the design which they acknowledged to be the best, under the plea that it could not be built for the sum stipulated; nor was that degree reversed when contractors of reputation offered to undertake it under securities; but they gave the premiums to other candidates, whose designs they declared to be quite impracticable. They were next requested to prepare a design themselves. It is understood, that two of those three judges, after examining and condemning all the designs, actually consented to do so, but the unseemly proceeding was checked by public opinion. The ultimate competition was between two architects of considerable and nearly equal influence among the civic authorities.

The recent competition exhibitions at Westminster Hall, for the decoration of the Parliament Houses, were at first hailed as the beginning of a better system, more intellectual and pure; but up to the present time, the results have led only to disappointment among the great body of the candidates, and growing indifference in the public. Some artists, after being rewarded the first year, had their works treated as unworthy even to be publicly exhibited at the second, whilst others have been appointed for actual employment on one trial, or even without passing through the prescribed ordeal at all. Several who have appeared honourably and with general approbation at all the exhibitions, have been utterly neglected or discarded by the royal commission, although the leading object of its appointment was the encouragement of native talent in the higher walks of art, and the commissioners had pronounced the works of many of those artists "highly creditable to the country."

The whole of the evidence on competitions, tends to prove that in respect of matters of art, a competent tribunal and equal justice have scarcely ever been obtained. In questions of taste, there is indeed so much room for doubt, that prevarication and partiality are less obvious and disgraceful than in simple questions of property, and yet the injury done to the sufferers is far greater where professional reputation as well as fortune is involved. Why should not artists, whose fame and means of existence are at stake, have as good protection from a committee of taste, as persons in trade are sure to find in a court of justice? Why are not committees, like judges and juries, responsible for their proceedings, either to a higher tribunal or to public opinion? Why are they not, in like manner, obliged to examine and consider both sides of the question? Our juries are selected for their impartiality, and every accident in that respect is rectified, by allowing each contesting party to challenge the jurors: no false delicacy towards jurymen is allowed to weigh against the welfare of the parties before the Court and the strict rules of justice. To see that they attend to their prescribed duties, and that the evidence is fairly placed before them, and not to interfere with the verdict, a judge presides who, after a long career of study and experience, is placed above ordinary rivalry and contention, in circumstances that render character, especially for impartiality and judgment, to him, all-important. Should he, forgetful of his high responsibility, lean unduly to one side and misdirect the jury, an appeal lies to a higher Court, where his error or misinterpretation is sure to be severely discussed, and, if a case is made out, the trial is set aside or the verdict is reversed, without the least complacency for his authority and feelings. Thus is the property of the humblest trader protected; thus the life or liberty of the poorest wretch accused of crime, is held paramount to all considerations of rank and station. In questions of property, every possible discussion has long been afforded; witnesses are examined, cross-examined, and re-examined, by contending advocates. The same protection has of late years been granted to persons criminally indicted.—And why should this wholesome respect for mutual rights, be denied to men of intellectual pursuits—authors or artists, who embark fame and fortune on the tide of public competition? Why should those to whom they entrust all that is precious in their estimation, think lightly of their responsibility. Something like the system of judge and jury, or an assimilation to the best of our prerogative Courts can alone render competitions among artists fair, honourable, and efficient, and give to the emanations of genius their proper value among us.

In the case immediately before us, it is proposed that a prize of 1,000*l.* be given to the artist who, in a general competition, shall produce the best painting twelve or fifteen feet one way, and ten or twelve the other; the subject is defined, and in several points, the precise mode of treating it. With so great a temptation, it is reasonable to suppose that many will overlook the expense, trouble, disappointment, and serious inconveniences that await all but the one fortunate candidate; it is reasonable to suppose that fifty artists may risk comfort and reputation in the attempt. We feel assured that the gentlemen who propose this competition, besides the desire to obtain as fine a picture as possible, are anxious to make it worth while to men of talent and character, to vie with each other in honourable emulation. They would evince generous delicacy towards the less successful artists who gave proof of high talent in the contest; for their object is not to encourage speculators to make a heedless dash at the 1,000*l.*, nor can they wish for a gaudy meretricious picture, but one wherein the subject is fully considered, the character of each figure is faithfully studied and pathetically delineated;—where the action of all is in due relation one with the other, and the whole is combined into a rational and picturesque composition. Such are the essentials of high art; they are best attended to in the simplest and least expensive materials, such as involve a larger outlay of mind in proportion to that of money. Thus may the best results be obtained with as little injury as possible to the candidates, as all virtuous and religious men must wish to do.

We now proceed to state the artist's case in two ways:—first, as it will stand if the advertised regulations are carried out; and next, as it would be, if our suggestions were adopted, supposing in either case the number of candidates to be fifty.

Fifty finished paintings, varying from twelve feet by ten to fifteen feet by twelve, would involve the artists in expenses (actual outlay) from 30*l.* to 40*l.* each; average, 36*l.*; total in money, 1,800*l.*

In time expended, average seven months;

total, 29 years: which at the low estimate of 150*l.* a year amounts to 4,350*l.*, making the whole outlay equivalent to 6,150*l.*; a positive loss in the aggregate of 5,150*l.*, beyond the prize of 1,000*l.*

As pictures so large, all of a given subject, peculiarly treated, and blighted by the vulgar stigma of defeat, stand no chance for sale, but really become a trouble and a nuisance to the artists, we may fairly say that in the aggregate this loss is wholly unmitigated, and that ten such speculative competitions would be equivalent to a loss among them of 50,000*l.* or 1,000*l.* each, or in other words, a total loss of two hundred and ninety years of human life, and 8,000*l.* of the artists' money.

By the mode we would suggest, the loss on the present occasion may be reduced to about 300*l.* in money and 17 years of time; that is, compared with the above, a saving of 525*l.* in money, and of nearly twelve years of time and exertion, whilst four or five paintings and twice that number of artists would be held up to distinction, instead of one, who, in the ordinary way, engrosses admiration.

On a plan somewhat similar to the double competition trial, adopted by the French institute at the election of students for residence at Rome, we would have two exhibitions; thus, supposing the number of competitors to be as above, fifty. The first exhibition would be of 50 cartoons, half life size, and 50 studies, of half figures, life size. From these, eight or ten should be rewarded with preliminary prizes. To each the sum of 40*l.* or 50*l.* should be paid, *i. e.* an equal portion of 400*l.* These distinguished candidates are then entitled and invited to compete with each other for the ultimate object. Thus the final great struggle would be between these eight or ten, and the second exhibition would consist of their eight or ten cartoons and studies from their first exhibition, and eight or ten finished pictures full size.

Four or five prizes should be awarded in this competition according to the number of good productions, *i. e.* 200*l.* among them. Thus four or five would receive 40*l.* or 50*l.* each, and as many would have 80*l.* or 100*l.*

Of these twice rewarded four or five, by the final decision, one would receive the great prize of the remaining 400*l.* in addition to his previous rewards, amounting together to 480*l.* or 500*l.* Surely the honour and advantages of such a victory, if properly awarded, would satisfy an ambitious enthusiastic artist. Could any one, amidst the honours and comfort of the glorious harvest, envy his less successful rivals the small return their gleanings had procured them?

By this arrangement the outlay of money and time of the competitors would be,

	£.	Years.
For 50 cartoons, average 13*l.*, and 3 months each..... Total	650 and	12¼
50 studies, average 8*l.* and 14 days	400 —	2
8 or 10 (say 9) paintings, at 25*l.*, and 5 months' average....	225 —	2¾
General Total	£1,275 —	17¼

Let us now consider the best mode of awarding the prizes, and the way to secure a competent tribunal, without which no good result can be depended on. Much of the difficulty comes from the uncertainty of what is considered excellence in art: some adjudging by the dictates of common sense, untutored to the technical rules of art, others guided almost entirely by conventional technicalities. Again, personal or professional prejudices have not been sufficiently controlled by principles, or by responsibility.

The following regulations appear to us entitled to consideration and adoption; viz., the judges should consist of *three*, elected by the parties interested in the purchase; and *three* elected by the artist competitors; in all six persons. They should be elected by ballot after nomination: at least, this rule should be strictly observed in respect to those who represent the artists.

Each of the judges should separately, from others, examine and criticise the performances, and write his opinion of each, and of every work of art; and, naming those which he considers entitled to distinction, give his reasons for that opinion.

These written opinions to be given in previous to the opening of the exhibition to the public; but the result not to be confirmed until a certain number of days after its closing. Then the judges should, for the first time, meet and discuss each other's opinions, and the merits of the competitors; and, recording their matured judgments, decide by the majority; the contrary opinions being also recorded, in order that public opinion be not smothered, as it now usually is, under respect for a supposed unanimous decision.

Gentlemen,—Your committee beg to observe that, in this inquiry, they have considered it of the utmost importance to discuss both sides of every question, and on several occasions, its members have abandoned old favourite views, when the evidence or the argument outweighed a favourite prejudice; they are therefore the more confident in their anticipation of this report meeting with favourable attention, and serious consideration at your hands, and they sincerely hope it may eventually lead to changes equally advantageous to artists, and to the public; to the establishment of regulations more consistent with the immutable principles of equity and good sense, than those which have too often rendered competitions illusive and hurtful; and they trust that apparent difficulties in the operation of a wholesome system, will not weigh against the best interests of humanity, and the progress of the Fine Arts.

PRINCESS ELIZABETH'S GARDEN PORCH AT COMBE ABBEY, WARWICKSHIRE.

Combe Abbey, one of the seats of the Earls of Craven, is situate about four miles from Coventry. It is erected on the site of a religious house of the Cistercian order, founded by Richard de Camvill, in the reign of King Stephen. Brayley tells us (in the "Beauties of England and Wales") that it was the first settlement of the Cistercian monks in the county of Warwick, and various benefactors arose whose pious gifts enabled the abbots and brethren, to maintain a course of secluded dignity through the long term of nearly four centuries. The monastery at the period of the dissolution in the reign of Henry VIII. became the property of the Crown, and was granted by Edward VI. to John, Earl of Warwick; and after the attainder of that nobleman was leased at the rent of 196*l.* 8*s.* 1*d.* to Robert Kelway, surveyor of the court wards and liveries, whose daughter, Anne, conveyed the possession, by marriage, to John Harrington, Esq., afterwards Lord Harrington. Lucy, the daughter of this lord, and wife to Edward, Earl of Bedford, became heir on the death of a brother; but the profuse expenses in which she indulged, caused the estate to be alienated to the ancestors of the Earl of Craven. In the latter noble family it is at present vested.

Great portion of the present building was raised by Lord Harrington; of the ancient monastic pile a portion of the cloisters only remains; these form a fine corridor, which ranges along the lower division of the building, and they are adorned with the projecting antlers of stags of every growth and size, black jacks, and various emblems of baronial free warren. On the west side of the house is a large addition, said to be by Inigo Jones, but which is more probably the work of Captain William Winde, the pupil of Sir Balthazar Gerbier; at least, it is ascribed to him by Horace Walpole (see his "Anecdotes," vol. iii. p. 169, Dallaway's edition). This building, which is externally of heavy character, contains some noble apartments. The rest of the edifice is of the Elizabethan style, requiring very little alteration to render it a regular and magnificent structure. Higher interest attaches to this building than what it derives from its monastic remains. It was here that the Princess Elizabeth, the daughter of James I., the beautiful and unfortunate Queen of Bohemia, passed the early days of her life under the tuition of the accomplished Lord Harrington. From this spot the Guy Faux conspirators had formed a scheme to remove her; a party, under the pretence of hunting, were to assemble near the house, seize the person of the princess, and, by proclaiming her queen, use her name in stilling and composing the minds of the people, leaving the after-task of converting her to Catholicism to the labour of the Jesuits. The enterprize was confided to Sir Everard Digby, who kept the appointment faithfully, but the attempt failed, and the princess escaped to Coventry. A very interesting account of the capture of the conspirators is given in Mr. Howitt's interesting volume, "Visits to remarkable Places in the account of Combe Abbey."

Few persons have been more celebrated in history than the Princess Elizabeth for virtues, talents, strength of mind, sweetness of temper, and gaiety of heart; these amiable qualities, joined to no inconsiderable share of personal beauty, obtained for her the title of the "Queen of Hearts." It was to Elizabeth that Sir Henry Wotton addressed the elegant lines, commencing

> "You meaner beauties of the night,
> That weaklie satisfie our eies,
> More by your number than your lighte,
> Like common people of the skies,
> What are you when the moon doth rise?"

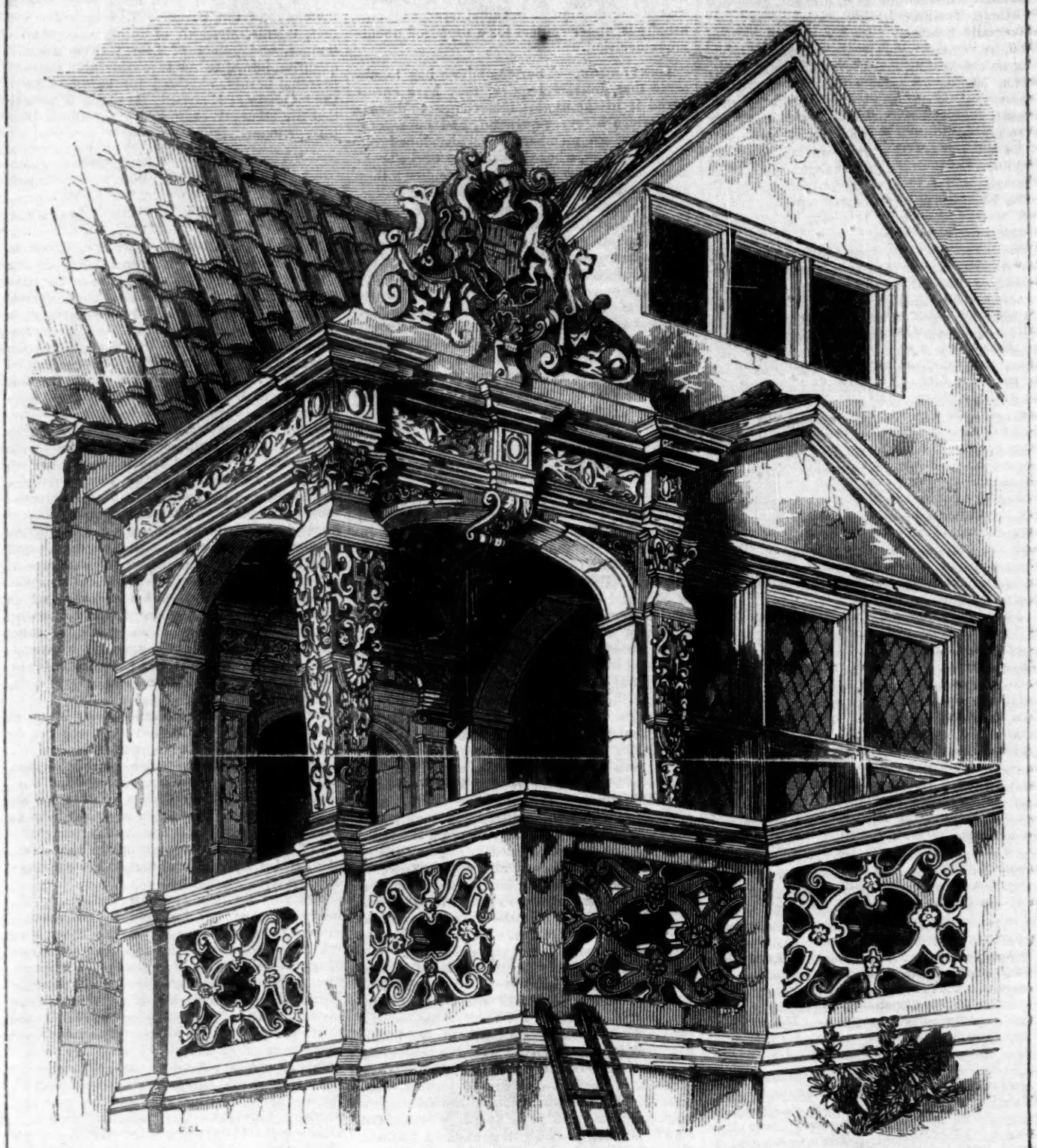
She was married at the early age of sixteen, to Frederick V., the elector palatine of the Rhine. The ceremony took place in the banquetting room at Whitehall. Their arrival in the palatinate was hailed by their subjects with the most enthusiastic joy; and during the few years in which they inhabited the palace at Heidelberg, it was the seat of unprecedented splendour and felicity. "To gratify the fine taste, which Elizabeth had acquired for gardening and the fine arts, Frederick, soon after their arrival at Heidelberg, caused an extensive part of the mountain adjoining the palace to be levelled, and planted as a garden for her recreation. In this, not merely shrubs, orange and lime trees, but forest trees of large growth, were introduced. In the centre of the flower garden was an elegant fountain, ingeniously constructed for purposes of irrigation; and from the edge of the precipice fell an artificial sheet of water, resembling a natural cascade. The principal entrance to this inclosure, which is now the botanic garden of the university, has escaped the devastation generally committed in this place, and bears a Latin inscription, purporting that it was raised in 1615, by Frederick V., in honour of his beloved wife, Elizabeth."*

On the election of Frederick as King of Bohemia, in 1618, he left that enchanting abode, Heidelberg Castle, where he and his family had enjoyed so much power, respect, and domestic happiness. After the battle of Prague, which deprived him at once of his regal dignity and hereditary right, he became a wanderer without a home, and terminated a life of extraordinary vicissitude, by that worst of all maladies, a broken heart, at the early age of thirty-six.

The part the princess bore in causing the misfortunes of her husband, is so strongly drawn by Mrs. Jameson, in her interesting "Visits at Home and Abroad," that, at the risk of repeating portions of the story, I will venture to quote from her. Thus, speaking of Elizabeth and the most striking events of her history, that of occasioning the celebrated thirty years' war:—"Medon: Do you forget that the cause of the thirty years' war was a woman? Alda: A woman and religion—the two best or worst things in the world, according as they are understood and felt, used and abused. You allude to Elizabeth of Bohemia, who was to Heidelberg what Helen was to Troy. One of the most interesting monuments of Heidelberg, at least to an English traveller, is the elegant triumphal arch raised by the Palatine Frederick V. in honour of his bride—this very Elizabeth Stuart. I well remember with what self-complacency and enthusiam our chief walked about in a heavy rain, examining, dwelling upon every trace of this celebrated and unhappy woman. She had been educated at his country seat; and one of the avenues of his magnificent park yet bears her name. On her fell a double portion of the miseries of her fated family. She had the beauty and the wit, the gay spirits, the elegant tastes, the kindly disposition of her grandmother, Mary of Scotland; her very virtues as a wife and woman, not less than her pride and feminine prejudices, ruined herself, her husband, and her people. When Frederick hesitated to accept the crown of Bohemia, his spirited wife exclaimed, "Let me rather eat dry bread at a king's table than feast at the board of an elector;" and it seemed as if some

* From the description to Wild's "Etched Outlines."

PRINCESS ELIZABETH'S GARDEN PORCH, COMBE ABBEY.



avenging demon hovered in the air, to take her literally at her word, for she and her family lived to eat dry bread, aye, and to beg it before they ate; but she would be a queen.—Blest as she was in love, in all good gifts of nature and fortune, in all means of happiness, a kingly crown was wanting to complete her felicity, and it was cemented to her brow with the blood of two millions of men."

The Queen after the death of Frederick, remained at the Hague, living in the utmost privacy; her chief employment being the education of her children, eight sons and five daughters, and her only relaxation of which we hear, an extended correspondence with men celebrated for powers of mind, and for various literary and scientific attainments. The management of her domestic affairs, and indeed of all matters in which her interests or her comforts were concerned, she committed to Lord Craven, who had entered the military service of the States of Holland, that he might be near to her. They were privately married, but political motives forbade the public avowal of their nuptials. On the restoration of her nephew, Charles II., she was invited by him to pass the remainder of her life in England; a proposal which she most readily accepted. She arrived in London on the 17th of May, 1661, with Lord Craven, and took up her residence in his house in Drury-lane, where she remained till the following February, on the 8th of which month she removed to Leicester House, and died there on the 13th, only five days after she had entered it. She was buried in Westminster Abbey, in a vault made for the interment of her brother Henry, Prince of Wales. Her collection of pictures, bequeathed to Lord Craven, were removed to Combe Abbey, where they nearly all remain, and add greatly to the interest of the building; besides the pictures of her husband and herself, there are portraits of almost every individual of her own family, the Stuarts, and of most of those gallant officers, English and German, who distinguished themselves in their endeavours to maintain the elector on the throne of Bohemia.

In the royal collection of plate at Windsor Castle, is an interesting memorial of the Queen; it is thus described:—"This dish and ewer, in form of the white and red rose, belonged to Elizabeth, daughter of James VI. of Scotland, and I. of England; married to Frederick, Elector Palatine, and afterwards king of Bohemia, by whom she had a daughter Sophia, married to Ernestts, Elector of Hanover, the representative of the house of Brunswick, Hanover, Lunenburg, Wolfen-buttel, Zell, &c., &c., and by whom she had a son George, who upon the death of Queen Ann, in 1714, succeeded to the crown of Great Britain." On the dish, which is of silver gilt,

of most elegant design, are engraved the royal arms of Bohemia.

William, the first Earl of Craven, died in 1697, at his house, in Drury-lane, and was buried at Binley, near Coventry. It is said of him that "he was one of the most accomplished gentlemen in Europe, a useful subject, charitable, abstemious as to himself, generous to others, familiar in his conversation, and universally beloved." During the plague, in 1665, he remained constantly in London, advising on the best means of preventing the contagion, and gave a piece of land for the burial, exclusively, of those who should die of that disease, then and thereafter. When buildings were erected on this ground, which is the site of Carnaby Market, a field on his estate at Paddington was given in exchange for it, which was nominally subject to the provision in question; but through our modern rage for bricks and mortar, the gift, in 1846, is about to undergo further change.

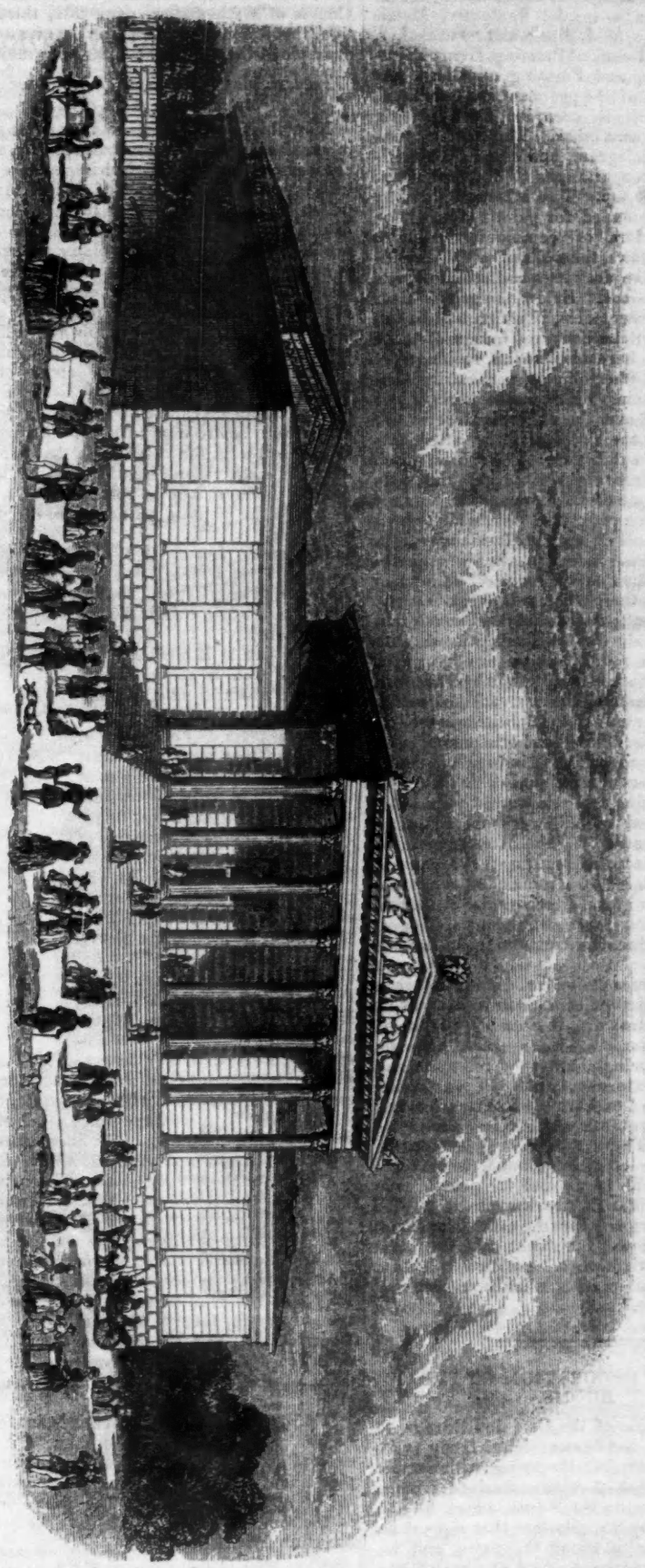
Sir William, in the year 1626, was created Baron Craven, of Hampstead Marshall, in Berkshire; the manor of which came into his possession, by purchase, about the year 1620. In 1662, for services which he had rendered to his exiled master, during the Protectorate of Cromwell, and the losses which he had sustained by confiscation, he was created an earl. Sir Balthazier Gerbier, architect and painter, now began for him a stately pile of building, at Hampstead Marshall, but dying in 1667, the structure was finished by Captain William Winde. A view of the house, engraved by Kip, is given in the "Theatre de la Grande Bretagne," pl. 45. It was almost wholly destroyed by fire in 1718; "a singular fate," Lysons observes, "for the mansion of this noble earl, who was so celebrated for his activity in assisting to extinguish fires in the City of London, and its suburbs, that it became a common saying, that his horse, for he always attended on horseback at the first notice, smelt a fire as soon as it happened."

In 1665, Lord Craven, having no issue, obtained a new patent to settle his barony of Hampstead Marshall on Sir William Craven, of Combe Abbey, great grandson and heir male of his uncle Henry, elder brother to his father, and, in right of descent from that Sir William, it is now held by the nobleman to whom the rest of the titles have been of late years granted. The suite of rooms at Combe Abbey, which were occupied by the Princess Elizabeth, and to which the beautiful garden porch, represented in the print was attached, are on the first or principal floor; they appear to be the work of the Lord Harrington, commenced in the reign of Elizabeth, and hastily finished in the reign of James I. for the reception of his daughter. One of the rooms contains a noble fire-place of highly picturesque and grand character,* it bears the royal arms of Elizabeth. This room was left incomplete as the pattern intended for the adornment of the ceiling, which is at present quite plain, was lately discovered drawn upon its face. Annexed to this chamber is a long gallery, from the end of which the garden porch leads by a flight of steps down to a small ornamented garden. The porch is constructed of very friable stone, the same apparently as that used in the principal buildings at Coventry—some of its enrichments can no longer be made out. A view of the interior of this porch was selected by Mr. J. Nash as the title-page to his second volume of "Old English Mansions."

There is one part of the porch which must be noticed; it is the shield of arms at the top; this was probably altered or added after the year 1697. The shield is that of Craven, quarterly 1 and 4, *argent;* a fess between three cross crosslets, fitchee, *gules*, 2 and 3. The additional coat granted to William Craven, Baron of Hampstead Marshall, *or*; 5 fleurs de lis in cross, *sable;* a chief wavy, *azure;* the crest, on a chapeau, *gules*, turned up ermine; a griffin statant, wing elevated *ermine* beaked and membered, *or*.

In conclusion, in the eloquent words of William Howitt, "Combe Abbey has altogether that air and those vestiges of old times which must, independent of its connection with the Queen of Bohemia, give it great interest in the eyes of the lovers of old English homes, and of the traces of past generations." C. J. R.

* A view of it was published in "The Architectural Remains of the Reigns of Elizabeth and James I.," McLean.



TEMPLE OF INDUSTRIAL ART, MUNICH.

TEMPLE OF INDUSTRIAL ART AT MUNICH.

The King of Bavaria is the first to raise a permanent edifice solely for the exhibitions of industrial art made periodically in Munich. In Paris, Berlin, Dresden, and other cities, where similar exhibitions take place, temporary structures, or buildings appropriated to other purposes, have been made use of: we can hardly doubt, however, that each capital will soon erect a building for the purpose. Let us hope that London will not be the last in the field.

Of the edifice in Munich, which was inaugurated on the 25th of last August, the king's birthday, the December number of the *Art-Union* journal * gives the annexed engraving and the following description: "This structure erected according to designs of the architect Ziebland, inspector of buildings, forms a pendent to the Glyptotheque, and presents towards the Königsplatz a portico of the Corinthian order, approached by twenty-one steps, and flanked by two wings, decorated with pilasters supported on a base equal in height to that of the steps. The façade of the building is orna-

* The *Art-Union* completes, with this number, its seventh volume; unquestionably the best yet published. It is impossible to avoid admiring the spirit, and liberality, with which this journal is conducted, and the efforts made to render each number superior to the last. Our advertising columns shew, that it will open the new year with an "illustrated tour in the manufacturing districts."

mented with sculptures, executed after models by Schwanthaler—representing 'Bavaria Enthroned,' distributing crowns to different figures—exhibiting on one side, Sculpture, Metal-casting, Coinage, Medalling; and on the other, Architecture, Historical Painting, Genre Painting, Encaustic, and Painting on Glass. At the extremities of the pediment are two lions, and the summit is occupied by a phœnix rising from his own ashes. The building consists of a parallelogram, and contains a vestibule, and seven apartments of different sizes, lighted from the top. Two others, lighted by windows, are intended for paintings on glass; and two corridors of communication, also lighted by windows, the walls of which are intended to receive drawings and other objects of small dimensions. Below the ground floor is a temporary receptacle, in which will be unpacked those articles conveyed from a distance for exhibition; here also is the residence of the keeper and other officers, necessarily inhabiting the building. The whole is roofed in with metal, and over the exhibition-rooms are apartments for the supplementary attendants on occasions of exhibition. The rooms, which vary in length from eight to eleven yards, present an aggregate of 1800 square yards; they are floored with a parquet of oak, which opens so as to admit at once large productions sent for exhibition, having been previously adjusted below as intended to be seen. The interior decoration of these rooms is very simple. Above a wainscot, painted like the doors to imitate walnut wood, the walls are painted with flat colour of a reddish brown or olive green hue, and divided at a certain height by a bandeau supporting pillasters, the intervals of which are framed, if we may so speak, with arabesques. The ceilings are coffered, and ornamented with paintings, and so pierced, as to afford equal light in every part of the room. The inauguration of this edifice was celebrated by an exhibition, composed of 353 works of Art, and other productions, of which 181 were pictures in all departments of painting; 100 statues, busts, and medals; the remainder consisting of paintings on glass, drawings in chalk and water colour, lithographs, architectural designs, and other productions common to collections of this kind."

"The time cannot be far distant before a periodical exhibition of industrial art will be held in this metropolis, in a building set apart solely for that purpose—we say solely, because, in a manufacturing country of relations and resources so extensive, such an exhibition should be limited to fabrics, manufactures, and art as applied to these without any admixture of fine art. These things originate in the capitals of the continent; but it is probable that London will be behind the provinces in this respect; Manchester has already voted large sums of money for the establishment of a museum, and we doubt not that the same place will shortly have a periodical industrial exhibition, equal in substantial interest to any other in Europe."

ARTISTICAL DECORATION OF PUBLIC ROOMS.

The large room of the Café de l'Europe, in the Haymarket, has been enriched lately by its spirited proprietor, Mr. Hemming, with a series of fine full-length portraits obtained from a palace in Bonn, on the Rhine, which fill the spaces formed by the pilasters that support an entablature running round the room, and, together with some good casts of ancient and modern statuary, give an effect of substantial and tasteful elegance not found in many other coffee-rooms. Anxious to see works of fine art become a necessary part of our houses, we mention the room in question as a good sign and an example worthy of imitation. The portraits include Francis I. of Austria, Charles Alexander of Lorraine, James Edward Stuart, Maria Leckinska, daughter of Stanislaus of Poland, and Louis XV. The majority of them are ascribed to Riego, and two, at least, are very superior works.

Harwich Breakwater. — The new breakwater at Harwich is expected to be commenced in a very short time. A contract for 50,000 tons of Kentish ragstone has been already made.

ON THE EQUILIBRIUM OF PIERS.

In the second volume of Dr. Hutton's Course of Mathematics, page 201, third edition, the following proposition is given as an example of the use of the centre of gravity:—

To determine the thickness of a pier necessary to support a given arch.

Now this is a problem of very great utility in *architecture* and the *constructive arts*, and in consequence of its practical importance it is well adapted for the pages of The Builder, which is especially devoted to the discussion of subjects of this nature. The solution of the problem, as given in the volume referred to, is not complete, since it does not shew in what manner the position of the centre of gravity of the balancing materials is found, and this is the very point that constitutes the difficulty by which the practical man is brought to a stand. It is true that the doctrine of the centre of gravity has previously been partially discussed, but no rule is given for determining its position in the case to which the problem refers, and it is for this reason that we have undertaken to reconsider the question, and to put the practical man in possession of a rule, by which the position of the centre of gravity can readily be determined in this and all similar cases. Let ACB, fig. 1, be a semicircular arch, of which AB is the span, DC the versed sine or rise, CE the thickness of the crown, and *abfe*, *cdhg*, the piers by which it is supported.

Here then it is obvious, that since the arch is symmetrically arranged about its axis DE, and sustained in equilibrio by the two equal piers *abfe* and *cdhg*, it follows that each pier must sustain one-half the weight of the materials which constitute the arch, so that the mixed figure ACE*b* is a just representative of the weight, whose action the pier has to resist. Let G be the position of the centre of gravity of the figure ACE*b*, and from G let fall the perpendiculars G*i* and G*k* upon the vertical line *bf*, and the horizontal line AB, and draw the diagonal GA. Now, since G is the position of the centre of gravity of the incumbent weight, it may be considered as the place of that weight; because, by the laws of mechanics, if the whole mass were concentrated in the point G, it would produce precisely the same effect upon the pier as it does when distributed in the form of an arch. Consequently, if G*k* denote the weight of the incumbent materials, or the tendency to descend in the direction of gravity; then will GA and *k*A denote the corresponding effects on the pier in the directions GA and *k*A to turn it about the point *e*, for by the *parallelogram of forces* the weight of the semi-arch ACE*b*, in the direction of gravity G*k*, the horizontal push in the direction *k*A, and the oblique thrust in the direction GA, are to each other as the three sides of the triangle AG*k*; that is, as the straight lines G*k*, *k*A, and GA.

Taking the force *k*A, which acts in the direction of the horizon, and considering it to be exerted on the lever A*f*, its effort to turn the pier about the point *e* will be expressed by $k\text{A} \times \text{A}f$. Let *w* denote the whole weight of the semi-arch ACE*b*, and its effect in the direction *k*A will be

$$\text{G}k : k\text{A} :: w : \frac{w \cdot k\text{A}}{\text{G}k}$$

The momentum of the semi-arch, or its effort to turn the pier about the point *e*, is, therefore, expressed by the term $\frac{w \cdot k\text{A} \cdot \text{A}f}{\text{G}k}$, and this must be equal to the momentum of the pier, in order that the arch may be just sustained. Now the weight of the pier is represented by the product of its height and thickness, since it is supposed to be prismoidal, and because the centre of gravity is coincident with the centre of magnitude; the leverage with which it resists the thrust of the arch is equal in length to one-half its thickness; hence the momentum of the pier is expressed by the term $\frac{1}{2}\, bf \cdot ef^2$; consequently, by equating these two expressions, we get

$$\tfrac{1}{2}\, bf \cdot ef^2 = \frac{w \cdot k\text{A} \cdot \text{A}f}{\text{G}k}$$

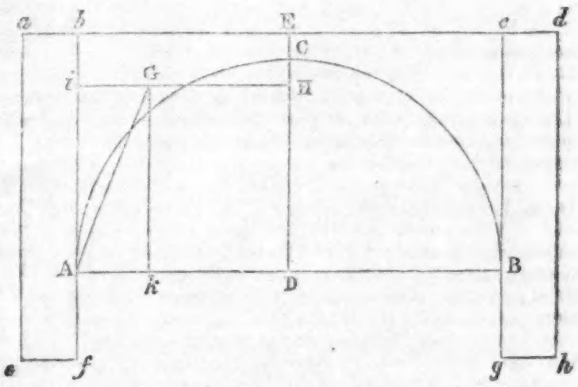
in which equation *ef* is the required quantity all the others being either given, or assignable by calculation from those that are known. Reducing the above equation in reference to *ef*, it becomes

$$ef = \sqrt{\frac{2w \cdot k\text{A} \cdot \text{A}f}{bf \cdot \text{G}k}} \quad \ldots\ldots\ldots\ldots (\text{A})$$

If we examine the composition of this equation, it will readily appear, that of the five quantities which it involves, only two of them are known *á priori* from the conditions of the problem, and these are, the leverage A*f*, and height of the pier *bf*; the other three quantities of which it consists having each to be determined by an indepe. dent process. Now the method of doing this is what the proposed problem does not shew; and although it may not offer any difficulty to the mathematician, yet the case is very different as regards the generality of practical men, the principles on which the omitted parts of the solution depend being to them in nine cases out of ten entirely unknown.

If the rectangular plane A*b*ED, which circumscribes the semi-arch, be supposed to revolve about one of its sides AD, which remains fixed, carrying the quadrant ADC along with it, the rectangular plane will, during its revolution, generate a cylinder whose radius is DE and altitude AD, while the quadrantal plane describes a hemisphere, of which the radius is AD or DC. Now, since the difference between the rectangle A*b*ED and quadrant ADC is

Fig. 1



equal to the area of the figure ACE*b*, it follows, that the difference between the cylinder and hemisphere just alluded to, is equal to the solid generated by the revolution of ACE*b* about the semi-span AD; but by a well-known property in the doctrine of mechanics, *the solidity of any body generated by the revolution of a plane any how situated, is equal to that of a prism whose base is the area of the revolving plane, and altitude equal to the circumference of the circle described by its centre of gravity.* Consequently, by having the solidity of the generating body and the area of the generating plane, the circumference of the circle described by the centre of gravity of the revolving plane can easily be found, and from that the position of the centre of gravity itself becomes assignable.

By the rules of mensuration, the solidity of a cylinder, of which the radius of the base is DE, and altitude AD, is expressed by the term, $3{\cdot}1416 \times \text{AD} \times \text{DE}^2$, and that of a hemisphere, whose radius is AD or DC, is expressed by $2{\cdot}0944\ \text{AD}^3$; consequently, by subtraction, the solidity of the figure generated by the revolution of ACE*b*, is equal to $3{\cdot}1416 \times \text{AD} \times \text{DE}^2 - 2{\cdot}0944\ \text{AD}^3 = 2{\cdot}0944\ \text{AD}\ (1{\cdot}5\ \text{DE}^2 - \text{AD}^2)$. But the area of the figure by whose revolution this solid is generated, is equal to the difference between the area of the rectangular plane A*b*ED, and that of the quadrantal plane ADC, the former of which is $\text{AD} \times \text{DE}$, and the latter $\cdot 7854\ \text{AD}^2$; hence it is $\text{AD} \times \text{DE} - \cdot 7854\ \text{AD}^2 = \text{AD}\ (\text{DE} - \cdot 7854\ \text{AD})$; therefore, by division, we get

$$\frac{2{\cdot}0944\ \text{AD}\ (1{\cdot}5\ \text{DE}^2 - \text{AD}^2)}{\text{AD}\ (\text{DE} - \cdot 7854\ \text{AD})} = \frac{2{\cdot}0944\ (1{\cdot}5\ \text{DE}^2 - \text{AD}^2)}{(\text{DE} - \cdot 7854\ \text{AD})}$$

This is the expression for the circumference of the circle, described by the centre of gravity of the figure ACD*b*, and if this be again divided by 6·2832, we get

$$k\text{G} = \frac{(1{\cdot}5\ \text{DE}^2 - \text{AD}^2)}{3\ (\text{DE} - \cdot 7854\ \text{AD})} \quad \ldots\ldots\ldots (\text{B})$$

This equation expresses the value of the

co-ordinate kG, or the vertical distance of the centre of gravity of the semi-arch from its base, and by a similar process, the other co-ordinate HG, or the horizontal distance from the axis can be found, for let us suppose that the rectangular plane DAbE, revolves about the side DE, which remains fixed, it will by such a revolution generate a cylinder of which the diameter is AB and altitude DE, while the quadrantal plane ACD generates a hemisphere of the same diameter, the difference between thees being equal to the solid generated by the revolution of the semi-arch AC$E b$.

Now, by the rules of mensuration, the solidity of the cylinder is $3{\cdot}1416 \times AD^2 \times DE$; and that of the hemisphere is $2{\cdot}0944\ AD^3$; therefore by subtraction, we have $3{\cdot}1416 \times AD^2 \times DE - 2{\cdot}0944\ AD^3 = 2{\cdot}0944\ AD^3\ (1{\cdot}5DE - AD)$; but the area of the figure by which this solid is generated, is, as we have already shewn, expressed by the term $AD\ (DE - {\cdot}7854\ AD)$; therefore, by division, we get

$$\frac{2{\cdot}0944\ AD^3\ (1{\cdot}5\ DE - AD)}{AD\ (DE - {\cdot}7854\ AD)} = \frac{2{\cdot}0944\ AD\ (1{\cdot}5\ DE - AD)}{(DE - {\cdot}7854\ AD)}$$

This expression represents the circumference of the circle described by the centre of gravity of the semi-arch when revolving about the axis DE; and if this be divided by the constant number 6·2832, we get

$$HG = \frac{AD\ (1{\cdot}5\ DE - AD)}{3\ DE - {\cdot}7854\ AD)};$$

and consequently, by subtraction, iG or kA, the horizontal co-ordinate, becomes

$$kA = AD - HG = AD - \frac{AD\ (1{\cdot}5\ DE - AD}{3\ (DE - {\cdot}7854\ AD}$$

which being reduced to its simplest form, is

$$iG = kA = \frac{AD\ (1{\cdot}5\ DE - 1{\cdot}3562\ AD)}{3\ (DE - {\cdot}7854\ AD)} \quad \ldots\ (C)$$

Let now the value of kG, as given in equation (B), and that of kA, as given in equation (C), be respectively substituted instead of them in equation (A), and we get

$$ef = \sqrt{\frac{2w\,Af \cdot AD\ (1{\cdot}5\ DE - 1{\cdot}3562\ AD)}{bf\ (1{\cdot}5\ DE^2 - AD^2)}}.$$

Now, the quantity $2w$ in this equation, is equivalent to twice the area of the semi-arch $ACDb = 2\ AD\ (DE - {\cdot}7854\ AD)$; hence, finally we obtain for the thickness of the pier,

$$ef = \sqrt{\frac{2Af \cdot AD^2\ (DE - {\cdot}7854\ AD)\ (1{\cdot}5\ DE - 1{\cdot}3562\ AD)}{bf\ (1{\cdot}5\ DE^2 - AD^2)}}$$

$\ldots\ldots$ (D).

If this equation be compared with that which is given in the volume where the problem is proposed, it will be found to be much superior, in so far as it involves nothing but given quantities; it is, however, of too complex a form to admit of being intelligibly expressed in words; but if the reader pays due attention to the steps of the process by which the following question is resolved, he will find no difficulty in applying the same principles to any other similar case.

Example 1.—Suppose the arch ACB to be a semi-circle, of which the span or diameter AB is ninety feet, the thickness CE at the crown six feet, and Af the distance from the foundation to the impost at A eighteen feet, what must be the thickness of the pier to sustain the thrust af the arch, the summit of the piers, and the roadway being in the same horizontal plane? The several data as here given, whep referred to the parts of the figure as combined in equation (D), may be particularized as follows, viz.:—

$Af = 18$ ft.; $AD = 45$ ft.; $DE = 45 \times 6 = 51$ ft.; and $bf = 51 + 18 = 69$ ft.

From the data as thus assimilated we have the following process:—

$$DE - {\cdot}7854\ AD = 51 - {\cdot}7854 \times 45 = 51 - 35{\cdot}343 = 15{\cdot}657$$

$$1{\cdot}5\ DE - 1{\cdot}3562\ AD = 76{\cdot}5 - 1{\cdot}3562 + 45 = 76{\cdot}5 - 61{\cdot}029 = 15{\cdot}471,$$

$$2\,Af \times AD^2 = 2 \times 18 \times 45 \times 45 = 36 \times 2025 = 72900;$$

Let these three results be multiplied together, and we shall have the numerator of the fraction thus—

$$15{\cdot}657 \times 15{\cdot}471 \times 72900 = 24222{\cdot}9447 \times 729 = 17652526\ 6863 = \text{the numerator,}$$

and $bf\,(1{\cdot}5\ DE^2 - AD^2) = 69 \times (1{\cdot}5 \times 51 + 51 - 45 \times 45) = 129478{\cdot}5 = $ the denominator; then by dividing and extracting the square root, it is

$$ef = \sqrt{\frac{17658526{\cdot}6863}{129478{\cdot}5}} = 11{\cdot}678 \text{ ft., the thickness of the pier sought.}$$

T.

THE STUDY OF DESIGN.

The system of instruction pursued at the Manchester School of Design is said to have been eminently successful; and other similar institutions have applied to the council for advice and assistance in introducing elsewhere the same system. With the view of enabling the council to impart the information sought, and to put them fully in possession of his views on the subject, Mr. George Wallis, the head-master, addressed a letter to the council, which they have published. The following extracts will shew our readers the course which is pursued there, and may be valuable to those who desire to teach themselves:—

"By the rules of the school, every student enters the elementary class; as those who have previously been taught drawing seldom possess a knowledge of the simple principles of linear construction. The first requisite, therefore, is to give them this knowledge, and they commence by the study of right or straight lines—horizontal, perpendicular, and diagonal—drawn in parallels and divided into relative proportions, as 2, 3, 4, 6, equal parts. These are carefully drawn without the aid of any mathematical instrument, by that most useful of drawing implements, the black lead pencil,—the natural action of the hand being explained and illustrated, and a severe method of handling constantly insisted upon throughout the full course. Clearness, distinctness, and precision being the end sought, as without these, intelligence in drawing is impossible. The scratched and slovenly effects so commonly resorted to in the ordinary modes of tuition, cannot, therefore, be too strongly deprecated.

Having attained the power to draw a straight line with precision, and to judge of its only dimension—length; and of distance and proportion, by dividing that length; the student proceeds to the construction of simple angles, and from these to polygonal figures, as the basis of the curve; then to the circle, simple and intersected, which in most cases he draws with almost mathematical accuracy after comparatively few lessons. The spiral, the ellipsis, the true oval or egg form, and other variations of the curve, follow; the relation between the angle and the curve being carefully kept before him. This may be said to finish his *free-hand* geometric course.

From this he proceeds to the simplest compositions, first as based on radiation and undulation, then on balance and repetition, as arising out of those principles; the fact being strongly impressed on his mind that, in attaining the knowledge of drawing the right line and the curve, he possesses the elements of all form, and has only to study their judicious combination. It will thus be seen that the course of outline is strictly progressive. By this means a knowledge of composition, even in the most complex examples, is gradually imparted to the student; and he is habituated to analyse form, as well as imitate its more apparent effects."

"This brings us to the class for shading, which has been divided into two sections. Those students to whom a knowledge of the human figure is essential in their future practice, as decorative painters, carvers, general engravers, &c., form the first section, and are taught to shade in chalk, by diagrams of flat tints, and afterwards by exercising them from the lithograph on white, and afterwards on tinted paper; and as a preparation for drawing from the large examples of the ornamental cast, each student executes a drawing enlarged from the copy, as an evidence of his power to judge of proportion, as well as size and form. Regarding this as the best method of teaching crayon drawing, I trust it will be understood that no student is suffered to continue drawing from the flat after he has attained a proper method of using his materials, which the exercise from well-selected examples of the lithograph is best calculated to give him. By this means he forms a mode of treatment of his own, and never falls into *manner*, which is the usual bane of schools and academies. Hitherto *mannerism* has been avoided, through this plan of not keeping the student so long at the lithograph as to make him a mere copyist, or on the other hand taking him to the cast without a knowledge of the method of imitating shadow, which necessarily involves so much teaching and illustration by the instructor, as to cause the pupil insensibly to fall into the master's mode of treatment, instead of working out one for himself.

A few words may here be said as to the best method of teaching the use of chalk in producing shadowed effects. The *stump*, an instrument of the greatest value to the accomplished draughtsman, is as decidedly useless and injurious to the youthful student, whose purpose is to learn to express relief by the imitation of shadow; for it induces him to overlook the fact that he has two effects of form to imitate,—that of outline, as on a plane, and that of relief, as expressed by projection; and that the latter, or perspective of his subject, will be best expressed by well studied lines agreeing with the contour. Experience has proved, therefore, that the crayon alone is the best instrument for education, since few or none who study with the *stump* ever shade well with the crayon point, whilst those who are well practised in the latter method possess the power of working with the former at any time, without those slovenly and dirty effects which in most cases result from its early use. As a means of education, then, the use of the *stump* is very objectionable.

The second section of the class for shading is composed of those students who are already, or may intend to become, designers for calico prints, silks, and other woven materials. These are taught shading by means of Indian ink, in the first instance from the flat, and afterwards from the cast; this method being peculiarly appropriate to their future pursuits, as giving them an early and valuable power over their instrument, the *brush*. I have, however, always desired to impart a knowledge of the human figure to these students, and regarded it as unfortunate that an opinion should prevail that it is useless to them. That it is an obvious absurdity to use the figure, or animals generally, on the materials for which these students are called upon to design, and that such use ought to be discouraged by every man of taste, is quite true: but I hold it essential to the success of this important class, that the figure should be taught them after preliminary instruction in the use of the crayon, and that this should be carried on simultaneously with their study of the history and principles of design; thus making, as far as possible, each course of study subservient to their general knowledge of art, as applicable to the purpose for which they are studying.

It may be asked,—Why teach the figure to the designer for textile fabrics, when you deprecate its use in his designs? My answer is,—Because it would expand his ideas of form, and give him a power of hand which the study of one class of forms, be it what it may, can never do. Hence the fallacy of supposing, on the other hand, that if the student draws the figure well, he can draw any thing, and, according to some authorities, design it too. But, allowing that the power to draw the figure would, in a great measure, qualify the student to draw any object placed before him, it must be borne in mind that the true ornamentist is not a mere copyist, but a reproducer of nature in a new form, and that he takes it rather as a basis for his invention, than as an object for his imitation. Hence the necessity for a very varied course of study, and constant recollection that the power merely to draw one object correctly, however excellent in itself that object may be, does not necessarily involve the power to represent every other object equally well; but I have ever advocated the study of the figure by every class of ornamentists, for the same reason that I believe the study of ornament is valuable to the historic artist, as a means of cultivating his taste, and increasing his knowledge of form and his powers of invention.

It will be thus seen, that I regard the proper and legitimate use of the figure—as the highest type of natural form, of the greatest possible value; but not as an elementary study, inasmuch as the necessity exists of first giving the student the power to apprehend and delineate form from less complex objects; those, in short, which he can most readily understand. For, as before stated, to imitate forms correctly and with intelligence, requires something more than the mere mechanical process of combining lines; in truth, the student must be taught to analyse the form before him, and this power should be given him at the outset."

"The student being thoroughly educated to draw any object placed before him in outline, and to represent its light and shadow by means

of chalk or Indian ink, he then enters the class for painting. This course is intended to embrace tempera, oils, fresco, encaustic, wax, and other modes of decoration, commencing with the first named, *tempera*, or distemper painting. In this material the student paints from the cast in mere light and shadow, so as to enable him to gain a knowledge of the use of body pigments by the easiest mode, and his eye is thus habituated to tint and tone as influenced by light and shadow, without having to grapple with the difficulty of representing positive colour at the outset. After this preliminary study, he paints at once from nature, flowers, fruits, shells, still-life in groupings, and should eventually complete his full course by painting the figure from the living model.

The best method of studying the human figure is now to be considered. The student having attained a knowledge of the use of his crayon, sets out with the bones as a foundation; not, however, to draw the full skeleton, but portions of it. Thus he studies the skull, the vertebræ of the neck, and the upper part of the trunk, as the clavicle, the sternum, the shoulder joint, and the upper ribs and scapula, with the upper portion of the dorsal vertebræ—the bones in fact, which are found under the bust. His next study is the muscles connected with the same parts, by which he at once sees the connection between the osseous and muscular formation. After this the full-finished bust becomes his model. The result is inevitable, for if he studies at all, he must understand it; and thus he goes on throughout the figure,—trunk, arms, legs, hands, and feet,—until he studies the complete figure from the antique statue. But during this course he is compelled to attend to other departments; thus he paints in the Morning School, and divides his time in the Evening between the figure and ornamental design."

"We now come to the most important portion of this question, the best mode of teaching *Design*, as distinguished from mere *Drawing*.

For the purposes of education, Design may be divided into two parts,—that which is based upon a knowledge of the construction of conventional ornament, as practised in the various epochs of Art—and that which is founded on Nature, through an investigation of its most obvious principles, and the best means of adapting these, conventionally, to the purposes of the Artist. The latter is obviously the only true source of originality, although the former may be regarded as the source of *our* conventional use of Nature; and any plan for teaching the principles, or, in other words, leading the student to think for himself, should be based on careful deductions from these two sources, and in this class every student ought to complete his course of study. It may also be made available for the advancement of early beginners, by giving them occasional demonstrations of the principles on which the elementary course is based.

The full course for Design is divided into five sections, in order to faciliate the education of the upper classes of students, for whose instruction it is more particularly est ablished.

The first section comprises an analysis of the principles of natural form, according to my own views and the ideas of the best authors I have been able to render available on this subject; applying these to the composition of ornament, and the illustration of the various leading principles in every style of Art. During this section each student is required to produce a design for some positive purpose, based upon the particular principle or principles which form the subject of the lesson or lecture, the illustrations being drawn in the presence of the pupils on a demonstration board. One week is allowed for the execution of the prescribed design, when each drawing is produced, enlarged on the board, and criticised in a kindly spirit in the presence of the whole class. The results, as you are fully aware, have been, so far, highly satisfactory.

The second section will comprise the consideration of the generic styles of art, as Hindoo, Egyptian, Greek, &c., tracing, as far as possible, one style out of another, and comparing them with their original types in nature, investigating and adapting them to the purposes of the artist, giving the history of each epoch, and, as far as possible, illustrating the spirit in which the artists of the period wrought, by a consideration of the influences at work around them.

The third section of this course will be to take either correct drawings of flowers and plants from nature, or, when possible, the originals themselves, and demonstrate various methods of conventionalising them on certain fixed principles already laid down; reducing the design to some prescribed form or proportion, such as is usually required in the adaptation of nature or abstract ornament to the positive purposes of the artist or manufacturer.

The fourth section involves the application of the human figure and animal life generally to the purposes of the ornamentist, illustrated by a reference to the leading points in the comparative anatomy of each, and shewing the readiest, most efficient, and most tasteful modes of combining them with foliage.

The last section will comprise illustrations of all the general principles of art, as found in nature and the works of the best masters, ancient and modern. Such principles, in short, which, when thoroughly understood, constitute what is usually known as *good taste* in art. This may be called the historic section.

Such are my views of a class for teaching the history, principles, and practice of design, more particularly as applied to ornamental art, and which I trust, with your concurrence and support, eventually to carry out in the Manchester School of Design."

HOUSES NOT FINISHED BEFORE THE 1st of JANUARY, 1846.

Several correspondents have expressed much anxiety to learn, what will be done by the official referees with regard to houses in the metropolis commenced before the 1st of January, 1845, without attention to the Buildings Act, and not "rendered fit for use" before the first day of January, 1846. In the "construction of terms" given in the Act, the term *already built*, is to apply to buildings built before the 1st of January, 1845, or commenced before that day, and "covered in and rendered fit for use within twelve months thereafter." Looking only to this, fear is expressed lest structural alterations should be called for in houses which, though nearly completed, might not be recognized as "fit for use."

Alarm, however, is unneccessary. If they read further, they will see that the term *hereafter to be built* is to apply to buildings commenced after the 1st of January, 1845, "or which being commenced, shall not be *covered in* within twelve months thereafter." Now as the Act applies only to "buildings *hereafter* to be built," and to the rebuilding enlarging or *altering* those already built, it seems clear that if a building be merely covered in, before the 1st of January, 1846, structural alterations to render it in accordance with the Act (unless, indeed, it be actually unsafe) cannot be called for.

Since the above was written (at the moment of our going to press), the official referees have addressed a circular to the district surveyors, bearing out our views. We will give it in full next week.

NEW CHURCH AT SEACOMBE.

The committee of subscribers to the proposed new church at Seacombe have selected the designs of Mr. John Hay, architect, of Liverpool. The church is to be composed of a nave 88½ by 31½ feet, and chancel, 22 by 16 feet. The west end will be surmounted by a tower and spire 120 feet high. The interior arrangements are said to be satisfactory: the centre aisle is of considerable width, and the worshippers will be accommodated with open benches. The sittings are 500 in number, of which one-half will be free. The roof will be of open framed timber, stained and varnished, similar to the one now building at Walton Breck. The west gable is to have a large mullioned and traceried window, and the chancel will be lighted by a similar one of smaller dimensions. The pulpit is placed at the north-western extremity of the chancel, and a lectern, designed by Mr. Hay, will stand on the opposite side. The style is the early decorated. The site is fixed at the intersection of four new roads, about 500 yards from Seacombe Hotel, and the church will present a picturesque addition to the view from the river. The cost is estimated at 1,800*l*. The architect proposed to place the vestry in a sort of detached octagon building, with a high conical roof. The committee, however, rejected this portion of the plan, and adopted a square vestry close to the chancel wall.

Miscellanea.

New Suspension Bridge for Railway Purposes.—A patent has just been obtained by Mr. H. H. Russell, formerly an assistant of Sir Isambard Brunel in the construction of the Thames Tunnel and other public works, for a new mode of arranging the curves in suspension bridges, by means of which the vibration and oscillation of those structures are entirely neutralized, and thereby rendered available for railway purposes. The novelty of the invention consists in the arrangement of the chains, which alternately are relieved by the support which is given from the lower portion of the catenary curve, it being supported in the pier immediately under the summits or points of bearing of the upper chain which interlaces at the centre of the span, thus distributing the weight of the moving power alternately from the higher to the lower chain. We shall take an early opportunity of giving a more minute account of the principle, which, if it realize the expectations of the patentee and many of his scientific friends, will be of essential service in lessening some of the expenses and difficulties incident to the formation of railroads.

The Breakwater Beacon.—On Thursday last the mast was placed in the masonry of the beacon erected at the eastern end of the breakwater, after which the globe, which is 6 feet in circumference, was fixed on the top of the mast, a height of 27 feet above the masonry; so that the entire beacon is now completed. The globe, which is made of wrought iron, weighs about 13 cwt., and is painted black; it is of very superior workmanship, and was manufactured in London. The mast, which is of African oak, is to be painted to correspond with the granite used in the construction of the beacon, and around it a series of steps have been cut, so as to enable persons in cases of wreck to ascend into the globe, in which an aperture has been left for the purpose. The globe has been painted black to shew itself seaward with greater distinctness than it would if of any other colour, the land being behind it. The cranes used in the erection of the beacon having been removed, the structure is now seen to much greater advantage, and forms a very good finish to the eastern end of the breakwater in contrast with the magnificent light-house at the western end. —*Plymouth Times.*

The Horary, or Hourly Record (Letts and Son).—This useful little volume contains a page for each day, with the hours marked for the insertion of the different occurrences, or to note engagements and coming events. The effect of keeping such a diary is pointed out by a happy quotation from the "Merchant of Venice:"

> "'Tis to preize the time,
> To add to it, and eke it out in length."

Scarcity of Masons.—It is said that at Merthyr, and the district of the iron works, it is almost impossible to get masons, even at high wages; and that many more houses would be built if carpenters and other workmen could be procured.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of the works between Leamer and Birdlington on the York and North Midland Railway, being a distance of 19¾ miles.

For altering part of the Whitby and Pickering Railway, including the widening of the cuttings and the embankments, the rebuilding several river bridges, and the laying down two lines of rails in lieu of the present single line.

For the execution of contract, No. 1, of the Lynn and Ely Railway, being a length of about 13 miles.

For lighting the town of Whittlesey, Cambridgeshire, with gas for 1 year. Gas works are already erected there.

For supplying her Majesty's several dockyards with Welsh or Cornish slates.

For the execution of the works on three separate lengths of the South Wales Railway, being together a distance of about 14 miles, including a tunnel.

For supplying the Cork and Bandon Railway Company with railway carriages.

For supplying the corporation at Coventry with iron pipes,, &c., for the intended water works; to be from 2 inches to 14 inches diameter, and in length about 21,550 yards or 12¼ miles.

For the executing of contract No. 1, of the Lynn and Dereham Railway, being a distance of about nine miles.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Fivehead, near Taunton: a quantity of large sized elm, oak, ash, and poplar timber trees, with their tops, lops, and bark, as now standing.

At Peasenhall, near Abingdon: a large quantity of ash, beech, and elm plank, and elm board.

At Steeple Bumpstead, Essex: 150 remarkably fine ash timber trees, beautifully clean and very straight.

At Guilden Morden, Cambridgeshire: 25 capital wych elm, and 8 ash timber trees, &c.

At Stanbourne and Steeple Bumpstead, Essex: 60 ash and 70 elm timber trees, of large dimensions and straight.

BY TENDER.

At Mast House, Mill-wall, Poplar: an extensive stock of prime yellow pine trees, of various lengths and diameter.

TO CORRESPONDENTS.

"A. T. P."—*The architect is not bound to do either the one or the other. Our correspondent will find reference to the point in next week's* BUILDER.

"W. G. B."—*We regret that we have not time to give him the explanation asked. Should an opportunity occur, we will do so.*

"Amicitia" *should apply to the secretaries of some of the railway companies.*

"J. M." (John-street).—*The address is* 29, *Tottenham-street.*

"Ordnance-road."—*If there be a common sewer within* 100 *feet from any front of the buildings about to be erected, drains must be made into it.*

"Old Subscriber" (Bethnal-green).—*Porter, of Southwark-bridge Iron-works, supplies iron houses, and will give all information required.*

"G. W."—*We shall avail ourselves of the circular.*

"J. J."—*A proof shall be sent as requested.*

"F. M." (Lambeth).—*What report is it that contains the statements as to charge referred to?*

"A Casual Observer."—*Our principal reason for giving the names of parties in the cases decided by referees, is to afford means of reference to persons who may desire to consult the documents at the registrar's office.*

"C. R. B."—*The tone of our correspondent's letter of the* 31*st would justify such a reply as might neither be useful nor gratifying to him. We allow no personal feeling to interfere with the discharge of public duty. He must be aware that it would be useless to publish all awards, and that we select those which are most likely to be useful.*

"Roman Cement."—*A correspondent wishes to have an analysis of the stone from which Roman cement is made.*

"W. W."—*Guernsey granite broken is the material recommended by Sir James McAdam. No other material is mixed with it.*

"J. D." (Birmingham), and "J. T." (Pimlico), *had better advertize.*

"A Builder."—*We will look to the Quadrant.*

"An Apprentice" *would probably find Grayson's Architectural Drawing School, at No.* 1, *Banner-street, Old-street, answer his purpose.*

"G. L."—*Ditto.*

"A Subscriber." (Metropolitan Improvements).—*We are uncertain, but will inquire.*

"Public Necessaries."—*The importance of this subject is becoming daily more evident. We have received several communications on the subject, and will give them early consideration.*

"Q." *has our thanks; but we cannot promise insertion at this moment. We have many communications to the same effect.*

"Sawing Machine."—*In answer to J. E., Mr. Monson, of* 30, *East-street, Manchester-square, says: "He has in use a machine, with fly-wheel* 5*-feet diameter, to dispose off, with saw, &c., complete for working.*

"A Subscriber."—*The address is Messrs. W. Basford & Co., Longport Brick and Tile Works, Staffordshire Potteries.*

Next Week:—"E. N." (St. Benet's Fink); "Architecture in France;" "State of the gas mains;" "Goethe on Palladio;" "O. O. O.;" "Constant reader;" "T. A. H;" "Colour in interior decoration;" "Laws relating to Buildings."

"G. T."—*A day was wasted in the ineffectual attempt to obtain the cuts promised.*

Received:—"Looker-on;" "J. P." (Shrewsbury); "Investigator;" "A regular brick;" "A Hand Book for Lewes," by Mark Anthony Lower (Russell Smith Compton-street); "Mephystopheles," No. 4; "Dolman's Magazine" No. XI. for January.

ADVERTISEMENTS.

NOTICE TO INVENTORS.

OFFICE FOR PATENTS OF INVENTIONS and REGISTRATIONS of DESIGNS, 14, Lincoln's-inn-fields.—The printed INSTRUCTIONS gratis, and every information upon the subject of PROTECTION for INVENTIONS, either by Letters Patent or the Design Acts, may be had by applying personally, or by letter, prepaid, to Mr. ALEXANDER PRINCE, at the office, 14, Lincoln's-inn-fields.

LONDON and BRIGHTON RAILWAY COMPANY. HORSHAM and KEYMER Branches. EXTENSION OF TIME.

The period for delivery of sealed Tenders for these works is extended to Thursday, the 15th January next, at 1 o'clock in the afternoon, when the parties tendering, or an authorized agent, must attend at this office.—By order,

T. J. BUCKTON, Secretary.

Brighton Railway Office, London Bridge Terminus.
29th Dec. 1845.

IMPORTANT TO SURVEYORS, BUILDERS, &c.

GALVANIZED TINNED IRON and ZINC MANUFACTORY, 17, Exmouth-street, Clerkenwell.

J. DORE begs respectfully to inform Builders and Surveyors, that on account of the Increasing Demand for Galvanized Tinned Iron, he has made such arrangements as will enable him to manufacture every article usually made in Zinc, at the same Prices; also begs to recommend this metal corrugated for Roofing as the most Economical, as it can be laid without Boards upon Slight Rafters.

Every Article manufactured in Zinc as usual, at the lowest possible prices.

DAY'S PATENT WINDGUARD, for ventilating churches, hospitals, factories, theatres, breweries, malt-houses, club-houses, shops, bed-rooms, smoking-rooms, school-rooms, nurseries, stables, larders, kitchens, offices, ships, mines, vaults, tunnels, &c. Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open and shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke to ascend, but if the room be found too cold can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants.

The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle, Buckingham Palace, St. James's Palace, Claremont Palace, Walmer Castle, the Houses of Parliament, New Conservative Club, White's Club, Travellers' Club, Oxford and Cambridge, Parthenon, Wyndham, Army and Navy, Senior United Service, Junior United Service, Admiralty, British Museum, Somerset House, Custom House, Mint, Hon. Artillery Company, H. M. Salamander, Trinity House, Ordnance, Greenwich Hospital, Christ's Hospital, Westminster Hospital, Bethlehem Hospital, Surrey Lunatic Asylum, New Royal Exchange, Mansion House, Goldsmiths' Hall, Fishmongers' Hall, Haberdashers' Hall, Dyers' Hall, Grocers' Hall, Armourers' Hall, Weigh House Meeting-house, Hanover-square Rooms, Theatre of the Westminster Literary and Scientific Institution, Grand Cigar Divan, Strand, City Club, and many other Public Buildings in Town and Country, as well as to the Mansions of many Noblemen and Gentlemen. Licenses granted for Manufacturing the above. Drawings and Plans made for Ventilating and Warming Buildings of every description.

THE SYPHON FUNNEL for Smoky Chimneys. This Machine creates a good draft in chimneys, and when this is required will be found the best machine invented for the purpose. It also protects chimneys from wind. Apply to GREEN and BENTLEY, Ironmongers, 27, Upper George-street, Edgware-road, or to Mr. VICKERS, Agent, 24, Sidney-street, City-road.

NOVEL PLAN FOR CURING SMOKY ROOMS.

THE SMOKE ELEVATOR, secured to the Advertiser by Act of Parliament, can readily be attached to any old or new pattern room stove, without disfigurement or removal of the stove, at a less cost than any patent chimney-pot, and with a certainty of success beyond comparison.—Sold by C. RICKETS, patentee of the calorifere gas stoves, for warming churches, halls, rooms, shops, or any other kind of building, without a chimney.—No. 8, Agar-street, Strand, opposite Charing-cross Hospital.

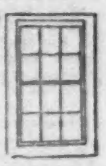
WILSON'S PATENT VENTILATING SPIRAL CHIMNEY POT, for the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success. This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance. The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory, Southwark-bridge Iron Roofing Works.

TO THE BUILDING PUBLIC.

SASHES AND FRAMES, DOORS, &c.

Manufactured for the Trade
By C. W. WATERLOW,
121, Bunhill-row, Finsbury-sq.

Best Materials.—Lowest Prices.
Terms: Cash.



Full lists of prices may be had on application at the counting-house; if by letter, pre-paid, inclosing postage-stamp.
A large stock of well-seasoned Doors always on hand.

BIELEFELD'S PAPIER MACHE.—The superiority of the Papier Mâché for the purposes of ARCHITECTURAL DECORATIONS is now so generally admitted, that it is needless to argue it. The introduction of Papier Mâché into most of the public and private buildings in the country is the best proof of its merits. Ornaments may be had in almost every style, and pattern-books, containing more than a thousand executed designs. Price 1*l.*

PICTURE FRAMES and other Articles of Furniture, either gilt or in imitation of the finest carved oak. An illustrated Tariff forwarded on the receipt of eight post-office stamps.

PATENT QUAQUAVERSAL GLASS-STANDS for the toilet, on an entirely new principle, of great elegance, and free from all the practical inconvenience of ordinary Glass-stands.

At the works, 15, Wellington-street North, Strand.

THE CONSOLIDATED LOAN, ANNUITY, and GENERAL LIFE ASSURANCE COMPANY. Registered Provisionally. Capital 500,000*l.*, in 20,000 shares of 25*l.* each, deposit 2*s.* 6*d.* per share, which, on complete registration, will be increased to 1*l.* 5*s.* per share; and from the experience derived from the working of other insurance offices, it is not expected that a paid-up capital of more than 2*l.* or 3*l.* per share will ever be required. This Company embraces all the varied objects of life assurance, and by means of monthly payments, will extend the benefits to every class of society; it will also advance money to enable persons to erect or purchase residences, or other freehold or leasehold property, upon the principle of a Building Society, without requiring the borrower to pay arrears of subscriptions, or to continue them beyond a limited period, which will secure to the shareholder a much larger and safer return than he can realize in any other Society. Shareholders will also have a preference in obtaining loans.—Applications for Shares to be made to T. G. WESTERN, Esq., Managing Director, 28, Leadenhall-street, of whom Prospectuses may be had.

PROFESSOR KELLER'S POSES PLASTIQUES.

ROYAL ADELAIDE GALLERY.—This day, and during the week, Professor Keller will exhibit at the Adelaide Gallery his Grand Tableau Vivans from the Ancient Masters, which have received so largely the encominms of the press. Every morning at half-past three, and in the evening at nine o'clock. Great efforts have been made to add to the effects of this exhibition. A variety of new subjects have been added to those already presented to the public. The Concerts as usual. Also Pilbrow's Atmospheric Railway model, with explanatory lecture.

CHRISTMAS HOLIDAYS.

ROYAL POLYTECHNIC INSTITUTION.—The Lectures selected for this period of the year, by Dr. Ryan and Professor Bachhoffner, in Chemistry and Natural Philosophy will be illustrated by interesting and beautiful experiments. A Lecture on the Prevalent Disease in Potatoes will be delivered by Dr. Ryan, and also on the Atmospheric Railway, by Professor Bachhoffner, a working Model of which, carrying several persons, is exhibited daily. The additions to the Opaque Microscope, Dissolving Views, and Chromatrope are very effective. The Physioscope. Submarine Experiments by means of the Diver and Diving Bell. Among the various additions to the Working Models is Coleman's new American Locomotive Engine, for ascending and descending Inclined Planes. A magnificent Collection of Tropical Fruits. Mr. Downe, the celebrated Flute-player, will take part in the Music, conducted by Dr. Wallis. Open from Eleven to half-past Five, and from Seven to half-past Ten in the Evening.—Admission, One Shilling. Schools, Half-price.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 8, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

Mann and Co. beg to call the attention of the Trade to the following spontaneous letter, just received:—

"Newcastle, Staffordshire, 17 Dec., 1845.

"Messrs. Mann and Co.

GENTLEMEN,—I am returning to you three empty casks (two cement and one paint). When you receive them, please to forward me a statement of my account, and I will remit you the amount. I have every reason to believe the cement will answer. The front of my building has now been finished some months, and stands in an elevated situation, very much exposed to the weather. I have not painted the exterior walls with the stucco paint, but have used it in the lobbies, and it seems to answer well. I finished all my principal rooms with the cement, laid on thin as a lath coat, and although the house was only commenced last April (the exterior walls only being built), it is now papered and painted, and I am residing in it, feeling confident that from finishing the inner walls with the cement the paper will keep dry, and not injure, as other walls do. The front looks well and has been much admired, and I think many will adopt it, all other cements used about here having failed in one way or other.

I am, your obedient servant,

JOHN LAMB, Mayor of Newcastle-under-Lyne.

P.S. You are at liberty to make what use you like of this information, if it will be of any service to the patentees.

TO ENGINEERS, ARCHITECTS, AND CONTRACTORS.

GREAVES'S LIAS CEMENT and GROUND BLUE LIAS LIME, at 2, South Wharf, Paddington, London, and Works, Southam, Warwickshire.

Agent for Liverpool, Mr. WYLIE, 56, Gloster-street; ditto for Manchester, Mr. J. THOMPSON, Back King-street; ditto for Chester, Mr. J. HARRISON, Linen Hall-street.

ATKINSON'S CEMENT.—The public is respectfully informed, that the price of this very excellent Cement, which has now been in use for Architectural and Engineering works upwards of thirty years, is reduced to 2s. 3d. per bushel, and may be had in any quantity at Wyatt, Parker, and Co.'s Wharf, Holland-street, Surrey side of Blackfriars-bridge.

N.B.—This Cement being of a light colour, requires no artificial colouring or painting, and may be used for stucco with three parts its own quantity of sand.

PORTLAND CEMENT, which does not vegetate, and requires no colouring, is perfectly hydraulic, and resists the action of Frost. The cost of the material and of working it is about the same as Atkinson's Cement, Manufactured by J. B. WHITE and SONS, Millbank-street, Westminster, and sold at their Warehouses:—

Druce's Wharf, Chelsea,
Bell's Wharf, Paddington,
Earl-street, Blackfriars,
Albion Wharf, Deptford-bridge,
by Salmon and Co., Dublin,
and at 36, Seel-street, Liverpool.

WALKER'S WHITE and CLOUDED LIAS LIME STONE, adapted for chimney-pieces, hall and kitchen floors, hearth-stones, steps, and staircase work, and every other purpose to which Portland stone is applicable. It has the advantage of being less porous, more durable, more easily worked, and of a more delicate and beautiful colour, than the lias lime stones at present in use, and consequently far superior also to Portland stone and others of a similar nature; in confirmation of which, references of great respectability can be given. It has also the advantage of being procurable in blocks or slabs of larger dimensions than those usually brought to this market, and "at exceedingly low prices."

Specimens to be seen and further information obtained at the "METALLIC SAND CEMENT WHARF" (opposite Pratt-street) Kings-road, Camden New Town, London.

VARNISH.—It has long been a desideratum amongst the consumers of Varnish to obtain a good and genuine article; brilliancy, facility of drying, hardness, and durability are the qualifications necessary, but these are seldom if ever found united. The experience of a life-time devoted exclusively to the manufacture of this article, the great and important discoveries of modern chemistry, and the daily improvements in machinery, have enabled Messrs. George and Thomas Wallis to produce Varnishes (both oil and spirit) unrivalled in every respect, and they confidently recommend them to the trade, as deserving of notice both in price and quality.

Builders, Coachmakers, Painters, and others may depend on being supplied with a genuine and unadulterated article. Fine Oil Varnish, from 10s. per gallon; best White Spirit Varnish, 21s. ditto; Best Spirit French Polish, 20s. ditto; White Lead, Oil, Turps, and Colours of every description at the very lowest prices.—WALLIS'S Varnish, Japan, and Colour Manufactory, 64, Long-acre, one door from Bow-street. Established 1750.

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; a boy can use it as well and effectually as the best workmen: it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre. Price 20s. per gallon.

STEPHENS'S LIQUID OAK, MAHOGANY, ROSE, and SATIN WOOD STAINS, for Staining various sorts of Inferior Woods, so as to give them the appearance and character of the more costly and ornamental kinds; also for reviving the natural colour of Wood Carvings and Panellings, and other ornamental Wood Work, when such has become faded from age or other causes.

IN THE BUILDING AND DECORATING NEW CHURCHES, where it is desirable to give to the cheaper kind of Woods the appearance of Antique Oak, or to make Deal assume the character of Oak Panelling, whereby the effect of the more costly may be produced by the use of a cheaper material, these Stains will be found more effective than any means hitherto employed.

IN OLD MANSIONS AND HALLS, where the Wood Carvings and Panellings have faded, the application of these Stains will be found to revive and bring back the rich natural colour, and which colour may be varied from the lighter to the deeper shades of the most Antique Oak.

The BIRCH WOOD, which has a fine natural grain, with little colour is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

For the exposed Timbers of the inside of the ROOFS of CHURCHES, for which north country Timbers and Deals are generally used, by brushing them over with the Stain, which operation is very rapidly, and of course economically, effected, the appearance of an Oaken Roof will be produced. For colouring the backs of the Seats, Pews, the fronts of Galleries, the Pulpit, &c., it is equally advantageous.

Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. FOWLER, Painter and Glazier, 3, Broad-street, Golden-square; and at the Office of "THE BUILDER," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, and Old-Barge-Wharf, Upper Ground-street, Blackfriars, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above.

N.B.—A weighbridge on the premises.

WESTBOURNE SAW MILLS.

50½, WESTBOURNE STREET, EATON SQUARE, PIMLICO.

J. NEWSON, having now completed his improved STEAM MACHINERY, begs to inform the Public that he is enabled to execute Sawing in all its branches with the greatest dispatch, and at such charges as he trusts will ensure to him a share of their patronage.

THE GENERAL WOOD CUTTING COMPANY, TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.—SAWING in all its branches executed with the greatest precision and despatch. PLANING by the most approved Machinery, reducing the Boards to a parallel width and thickness, and grooving or matching with undeviating accuracy. The operation economises time, money, and material.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

PAYNE'S PATENT PROCESS FOR THE PRESERVATION AND IMPROVEMENT OF TIMBER, &c.

PAYNE and LODER beg to invite the attention of Engineers, Railway Companies, Architects, and others to the above process, and to state that they are prepared to erect the necessary apparatus in any part of the United Kingdom where the quantity is sufficiently large to cover the outlay of its removal.

Further particulars can be obtained at Whitehall-Wharf Cannon-row, Westminster, or at their other stations, Fleetwood-on-Wyre, Lancashire; Wisbeach, Cambridgeshire; Union-Wharf, Southampton; and Guildford, Surrey.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorised CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

, In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.